



LIFE13 ENV/IT/000470 "ECODEATTING"

Environmentally friendly natural products instead of chemical products in the degreasing phase of the tanning cycle



Action A2

Demonstration of natural products level.

Beneficiary responsible for implementation: Unifi


The EDF formulations were based on the use of natural products and lactose derived species for the demonstration of defatting at laboratory level. These substances were formulated with co-emulsifiers and co-solvents, to enhance their defatting power.

Duration
01.10.2014 to 30.09.2016

Total Budget
€ 1,035,556.00

EU contribution
€ 517,778.00

Coordinating beneficiary



Chemical Department
"Ugo Schiff"
Florence University (IT)

Associated beneficiaries



Chemical Institute of organometallic compounds of CNR (IT)



Newport Srl (IT)



Asociación de Investigación para la industria del calzado (ES)

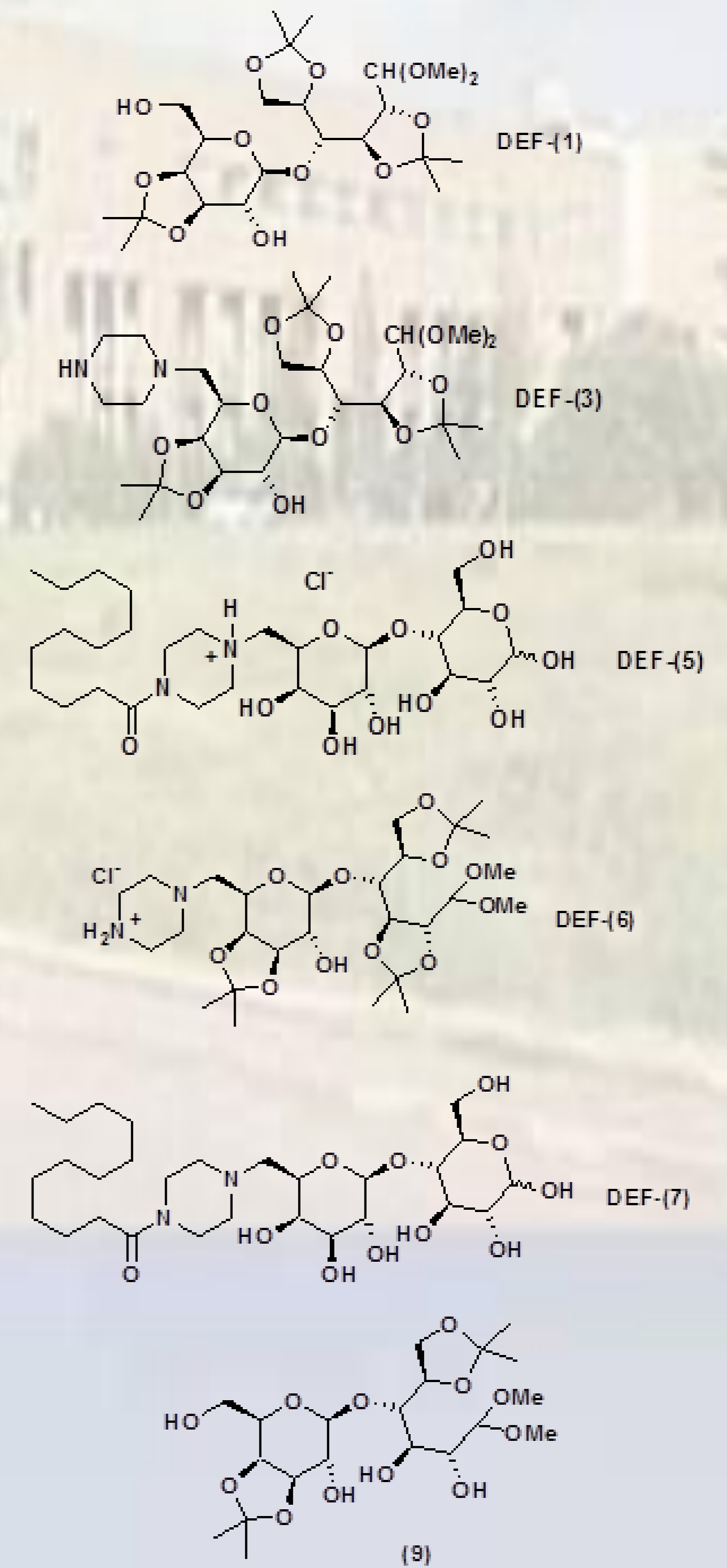
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EDF Formulations

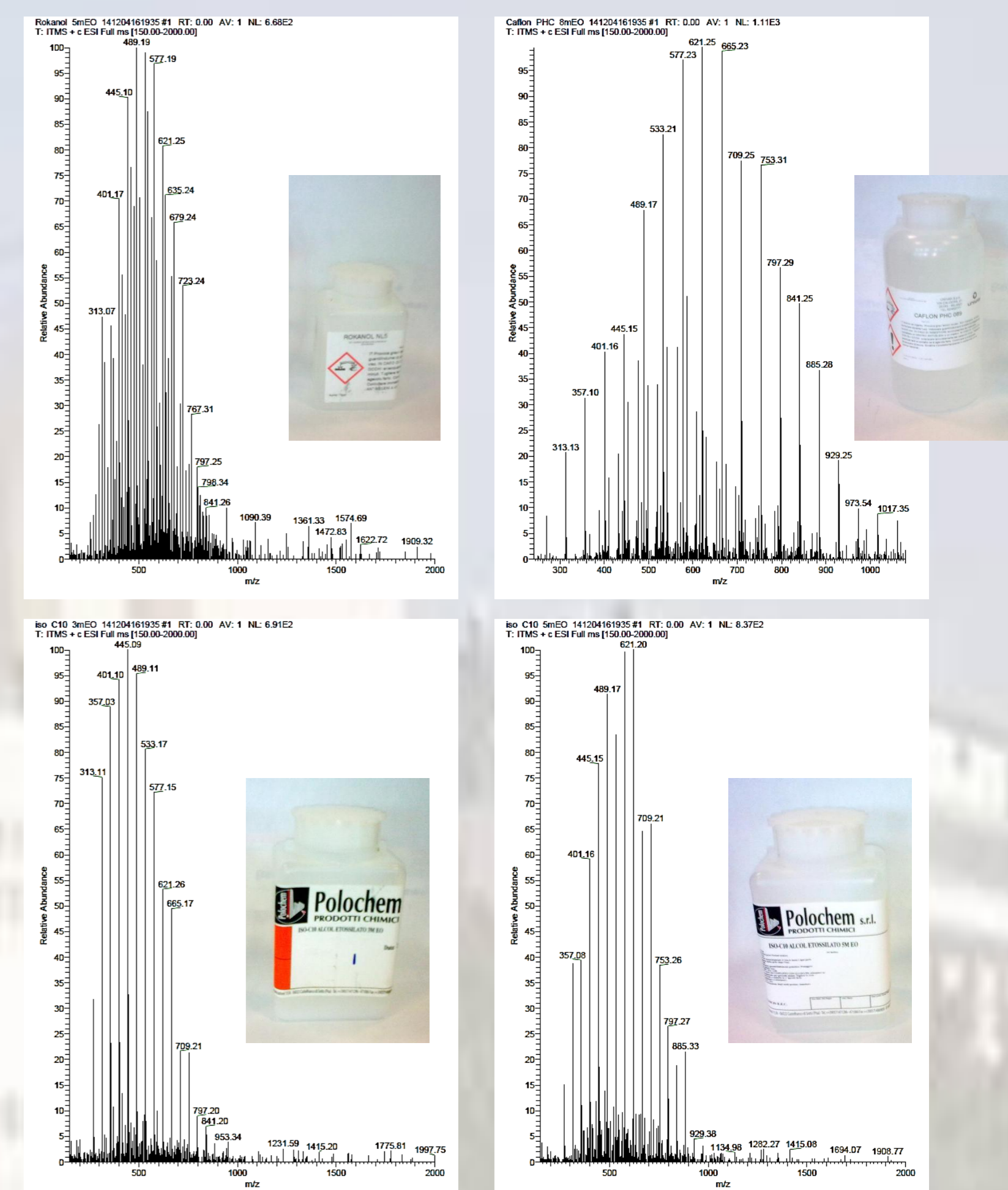
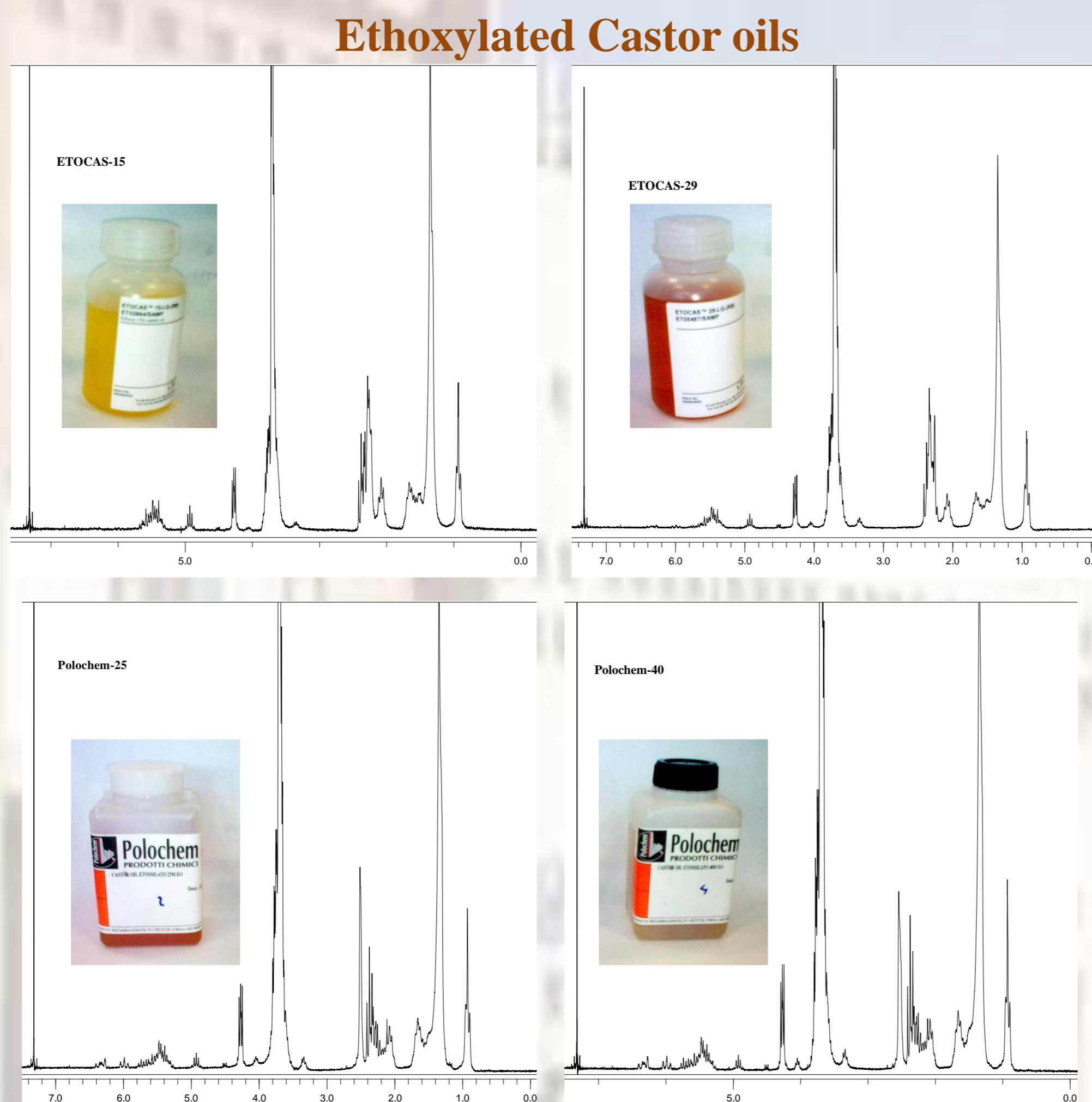
Formulation	Alcohol iso-C10 3mEO	Alcohol iso-C10 5mEO	Rokanol 5mEO	Caflon PHC 8mEO	Castor oil 25mEO	Castor oil 40 mEO	Etocas 15 mEO	Etocas 29 mEO	Tripropionin	Natural product	Lactose derivative ^a	Span 80	Hexylene glycol	Water	
EDF01	5	25			3	3					25 (5)	2	5	32	
EDF02	5	25			3	3				25			2	5	32
EDF03	5	25			3	3			25				2	5	32
EDF04			5	25			3	3		25			2	5	32
EDF05			5	25			3	3	25				2	5	32
EDF06	8.5	30			6.5	6.5							5.5	8.5	35
EDF07			8.5	30			6.5	6.5					5.5	8.5	35
EDF08	5	25			3	3			12.5	12.5	5 (1)		2	5	27
EDF09	5	25			3	3				25	5 (3)		2	5	27
EDF10	6	32			4	4					5 (7)		3	6.5	39.5
EDF11	6	32			4	4					5 (6)		3	6.5	39.5
EDF12	6	32			4	4					5 (9)		3	6.5	39.5
EDF13			6	32			4	4			5 (7)		3	6.5	39.5
EDF14			6	32			4	4			5 (6)		3	6.5	39.5
EDF15			6	32			4	4			5 (9)		3	6.5	39.5
EDF16	5	25			3	3				20	5 (9)		2	5	32
EDF17	5	25			3	3				20	5 (7)		2	5	32
EDF18	5	25			3	3				20	5 (6)		2	5	32
EDF19										20			5	50	
EDF20										20	5 (6)		5	45	
EDF21										20	5 (9)		5	45	
EDF22			7.5							32	6 (9)		4.5	50	
EDF23			12							35	3 (6)			50	
EDF24			10							37	3 (6)			50	
EDF25			6							34.5	5 (6)		7.5	47	
EDF31			5							22	3 (6)		25	45	
EDF33			1							9	2 (6)		46	42	

a): the lactose derived species is reported in brackets .

Lactose derived defatting agents



Ethoxylated alcohols



Ethoxylated alcohols from Polochem assured homogeneously formulated defatting agents. In the case of the Univar products, the ethoxylated Caflon and Rokanol had to be formulated with glycerol esters, occasionally without assuring the required defatting power. The purity profile of ethoxylated Castor oils from Etocas brand was higher than that of the Polochem products, but this did not affect the defatting power of the EDF formulations.