

Materials List for:

# Extraction and Characterization of Surfactants from Atmospheric Aerosols

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URL: <https://www.jove.com/video/55622>

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## Materials

Name	Company	Catalog Number	Comments
Quartz filters	Fioroni		for example Ø 47 mm or Ø 150 mm, Grammage 85 g/m <sup>2</sup>
Aluminium foils or glass Petri dishes			baked in oven (773 K, 6 h)
Tweezers, scissors			
Desiccator			
<b>SPE (Solid Phase Extraction) set-up</b>			
SPE vacuum manifold Ac-Elut	Varian		
Pump Laboxat	Knf LAB		
<b>Nitrogen dryer set-up (hand-made)</b>			
Compressed Nitrogen 4.5 in bottle B50, 200 bar at 15 °C	Linde		
Tensiometer	Dataphysics	OCA 15EC	
Tensiometer Software		SCA software for OCA version 4-4.1	
UV-Vis spectrometer	Agilent	8453	
Stir-plates			
<b>Glassware</b>			
Glass Petri dishes			for the water extraction step
Beakers			
15 mL, 30 mL, 60 mL glass bottles with corks			
Tubes for SPE			
Magnetic stirring bars			
Ultrasound bath			for glassware washing
Micropipettes (0.5 - 5 mL, 0.100 - 1 mL, 10 - 100 µL)	Rainin Pipette-Life XLS		
<b>Disposable small equipment</b>			
Syringe filters 0.45 µm PVDF	Fisherbrand		
SPE C18 cartridges Strata C18-E cartridges 500 mg / 3 mL	Phenomenex		
Plastic syringes			
Needles			
4 mL-vials			
Pasteur glass pipettes			

Micropipette tips			
<b>Chemicals</b>			
Sodium dodecyl sulfate (SDS) ≥ 98.5% Bioreagent	Sigma- Aldrich	L3771	
Diocetyl sulfosuccinate sodium salt (AOT) ≥ 97%	Sigma- Aldrich	323586	
Benzyltetradecyldimethylammonium (zephiramine) ≥ 99.0% anhydrous Fluka	Sigma- Aldrich	13401	
Cetyltrimethylammonium chloride solution (CTAC) 25 wt% in H <sub>2</sub> O	Sigma- Aldrich	292737	
(1,1,3,3-tetramethylbutyl)phenyl-polyethylene glycol (Triton X114) laboratory grade	Sigma- Aldrich	X114	
Polyethylene glycol dodecyl ether (Brij35) Fluka Bio Chemika	Sigma- Aldrich	858366	
L-α-phosphatidylcholine from egg yolk type XVI-E lyophilized powder ≥ 99%	Sigma- Aldrich	P3556	
Surfactin from Bacillus subtilis ≥ 98%	Sigma- Aldrich	S3523	
R-95Dd rhamnolipid (95% dirhamnolipid, 5% monorhamnolipid)	Sigma- Aldrich	L510025	
Ethyl violet cationic triarylmethane dye	Sigma- Aldrich	228842	
Patent Blue VF dye content 50%	Sigma-Aldrich	198218	
Ammonium thiocyanate ≥ 99% puriss. p.a., ACS reagent	Sigma-Aldrich	31120	
Cobalt(II) nitrate hexahydrate ≥ 98% ACS reagent	Sigma-Aldrich	239267	
Acetic anhydride ≥ 99% ReagentPlus	Sigma-Aldrich	320102	
Sodium acetate ≥ 99.0% anhydrous Reagent Plus	Sigma-Aldrich	S8750	
Ethylenediaminetetraacetic acid 99.4– 100.6% ACS reagent powder	Sigma-Aldrich	E9884	
Sodium sulfate anhydrous ≥ 99.0% granulated puriss. p.a. ACS reagent Fluka	Sigma-Aldrich	71960	
Ethanol puriss. p.a. ACS Reagent reag. Ph. Eur. 96% (v/v)	Sigma-Aldrich	32294	
Acetonitrile ≥ 99.9% HiPerSolv CHROMANORM Reag. Ph. Eur. (European Pharmacopoeia Reagent) grade gradient for HPLC	VWR BDH Prolabo	20060.32	to be manipulated under hood
Chloroform 99% stable with 0.8–1% ethanol	Alfa Aesar	L13200-0F	to be manipulated under hood
Toluene > 99%	Chimie Plus	24053	to be manipulated under hood
Denatured ethanol for washing			
Ultra-Pure water	Ultrapure water system Purelab Classic, Elga		