

Specification IONUS



Customer Information	
Customer	
Contact Person	
Street	
Postal code /city	
Country	
Phone	
E-Mail	
<i>to be completed by membraPure GmbH</i>	
Project number	
Customer number	

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Determination of which type of ions	
Type of Ions to be separated	<input type="checkbox"/> Anions (e. g. halides and nitrite / nitrate) <input type="checkbox"/> Organic Acids <input type="checkbox"/> Cations (e. g. alkali metals and alkaline earth metals) <input type="checkbox"/> Transition Metals <input type="checkbox"/> other: _____ _____ _____
<i>Example of chromatograms of the individual applications see pages 1 to 11</i>	
Based on / according to standards or regulations	<input type="checkbox"/> EPA 300 (Drinking water) <input type="checkbox"/> Part A <input type="checkbox"/> Part B <input type="checkbox"/> EPA 317 (Bromate) <input type="checkbox"/> EPA 326 (Bromate) <input type="checkbox"/> other: _____ _____ _____
Range of Concentration	<input type="checkbox"/> < 10 to 25 ppm (mg/L) <input type="checkbox"/> > 5 to 10 ppm (mg/L)

Basic Devices		
Detection System	<input type="checkbox"/> Conductivity Detector	<input type="checkbox"/> Post Column Derivatization (PCD: Photometer - UV/Vis range)
Injection System	<input type="checkbox"/> Autosampler	<input type="checkbox"/> Manually (Autosampler upgrade possible)
<i>We recommend an autosampler.</i>		
Column Location	<input type="checkbox"/> Thermostat (ambient + 5 °C up to 50 °C)	<input type="checkbox"/> Holder
<i>We recommend a thermostat for constant column temperature.</i>		

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Options for Device		
Suppressor Technique	<input type="checkbox"/> With / Yes	<input type="checkbox"/> Without / No
Computer tested	<input type="checkbox"/> With / Yes	<input type="checkbox"/> Without / No
Data Handling	<input type="checkbox"/> Clarity (21 CFR Part 11 compliant)	<input type="checkbox"/> AminoPeak / iControl

Additional Configuration(s)	
<input type="checkbox"/>	UV/Vis-Detector, external, e. g. for indirect UV detection for light absorbing eluents
<input type="checkbox"/>	Other detector:
<input type="checkbox"/>	Stainless steel dumping units
<input type="checkbox"/>	Purge valve(s)

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Separation Column(s)				
Examples of separations of standard solutions on these columns → see figures 1 to 11				
<input type="checkbox"/> Anions				
<input type="checkbox"/>	PRP-X100, 5 µm	50 mm x 4.1 mm ID	SS	(normally used: with and without suppressors)
<input type="checkbox"/>	PRP-X110S, 7 µm	250 mm x 4.1 mm ID	SS	(with suppressors)
<input type="checkbox"/>	PRP-X110S, 7 µm	150 mm x 4.1 mm ID	SS	(with suppressors)
<input type="checkbox"/>	PRP-X110, 7 µm	150 mm x 4.1 mm ID	SS	(without suppressors)
<input type="checkbox"/>	PRP-X100, 5 µm	50 mm x 4.1 mm ID	SS	(IONUS PCD: Bromate, EPA 317)
<input type="checkbox"/>	PRP-X100, 5 µm	150 mm x 2.1 mm ID	PEEK	(IONUS PCD: Bromate, EPA 326)
<input type="checkbox"/>	Column hardware PEEK (filled with same stationary phases)			
<input type="checkbox"/>	Other Column: _____			
<input type="checkbox"/> Organic Acids				
<input type="checkbox"/>	Eurokat H, 10 µm	300 mm x 8 mm ID	SS	(organic acids)
<input type="checkbox"/>	PRP-X110, 7 µm	250 mm x 4.6 mm ID	PEEK	(anions and a few organic acids)
<input type="checkbox"/> Cations				
<input type="checkbox"/>	PRP-X800, 7 µm	250 mm x 4.1 mm ID	SS	(normally used: e. g. Alkali and Earth alkali metals)
<input type="checkbox"/>	PRP-X200, 10 µm	100 mm x 4.1 mm ID	SS	(Alkali or Earth alkali metals)
<input type="checkbox"/> Transition Metals				
<input type="checkbox"/>	Nucleosil 100-5 SA	150 mm x 4.6 mm ID	SS	(IONUS PCD)
<input type="checkbox"/> Precolumns inclusively				
<input type="checkbox"/>	All			
<input type="checkbox"/>	Only:			

Examples of Applications

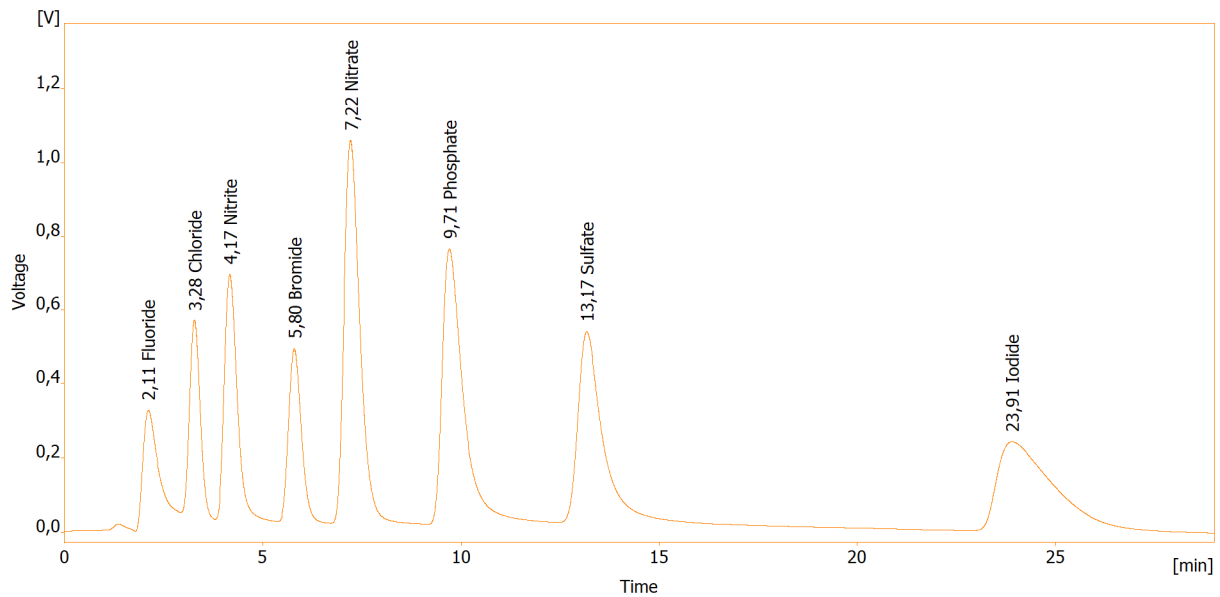


Figure 1: Column PRP-X100, 50 mm x 4.1 mm ID, Cat. No. 650-0105, with 3.2 mM Sodium carbonate, 1.0 mM Sodium hydrogen carbonate and 0.1 mM Sodium thiocyanate as eluent with suppressor technique, according to EPA 300 part A.

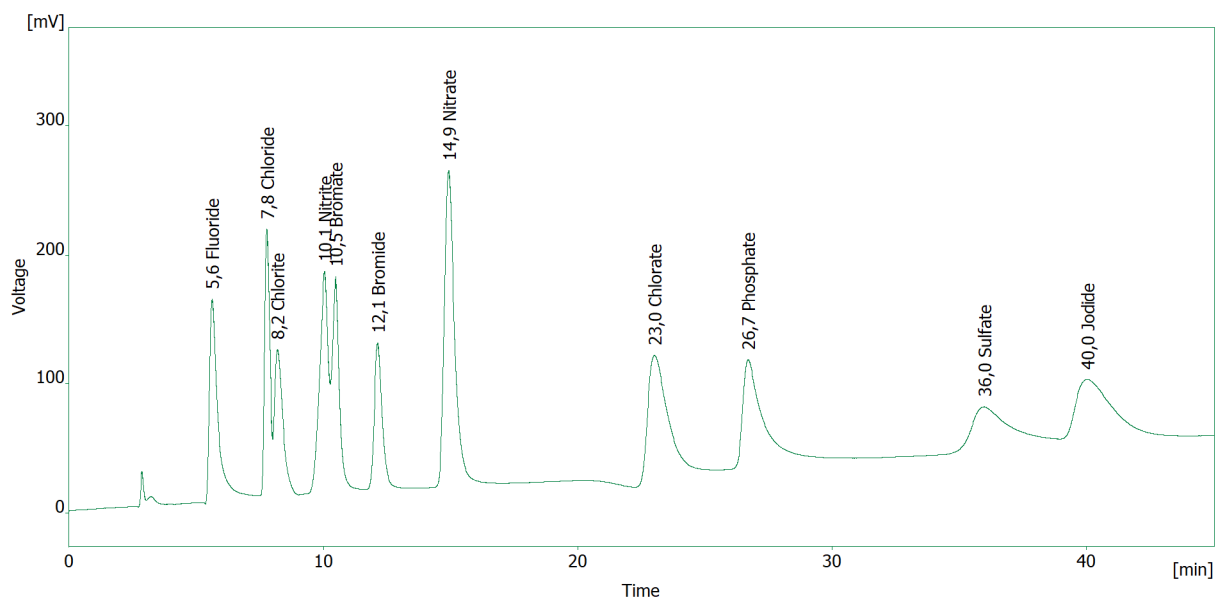


Figure 2: Column PRP-X110S, 250 mm x 4.1 mm ID, Cat. No. 650-0195, with 1.25 mM Sodium carbonate, 3.5 mM Sodium hydrogen carbonate and 0.1 mM Sodium thiocyanate as eluent with suppressor technique according to EPA 300 part B and A in one run.

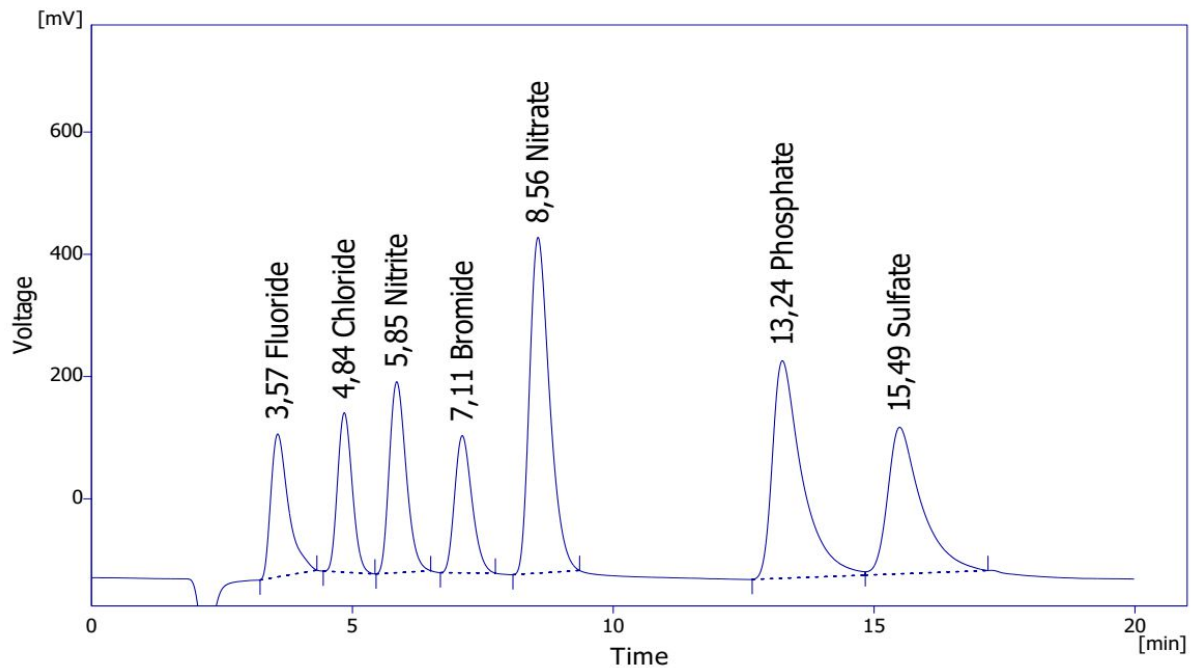


Figure 3: Column PRP-X110S, 150 mm x 4.1 mm ID, Cat. No. 650-0121, with 3.2 mM Sodium carbonate, 1.0 mM Sodium hydrogen carbonate and 0.1 mM Sodium thiocyanate as eluent with suppressor technique, according to EPA 300 part A.

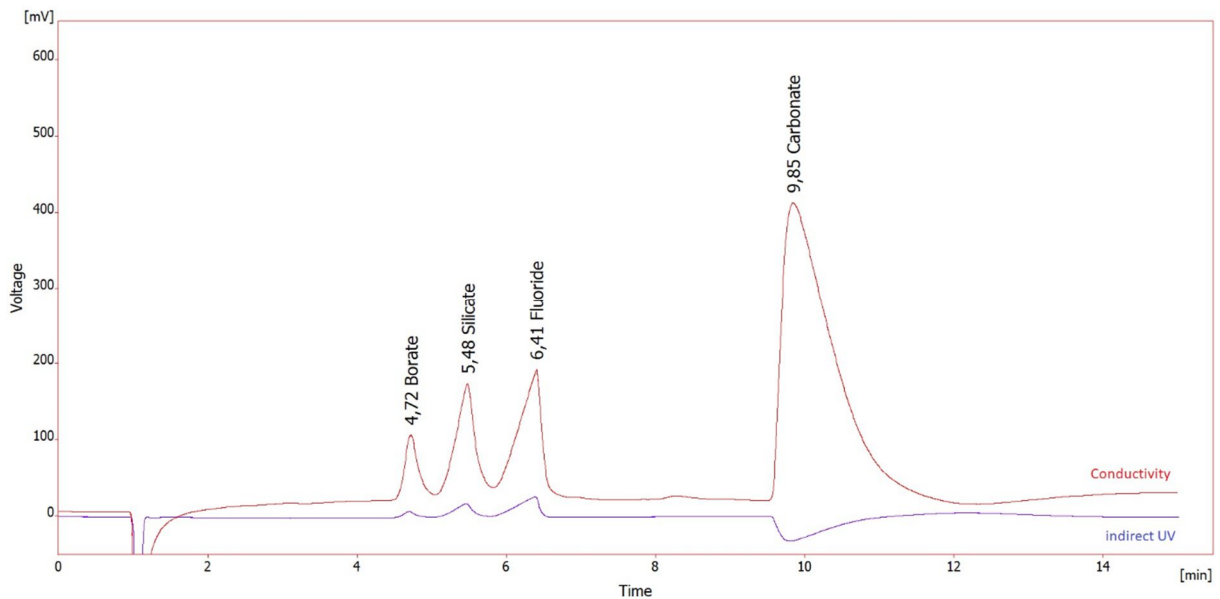


Figure 4: Column PRP-X110, 150 mm x 4.1 mm ID, Cat. No. 650-0121, with 0.5 mM Sodium hydroxide and 0.5 mM Sodium benzoate as eluent without suppressor technique and an external UVIS detector for indirect UV detection.

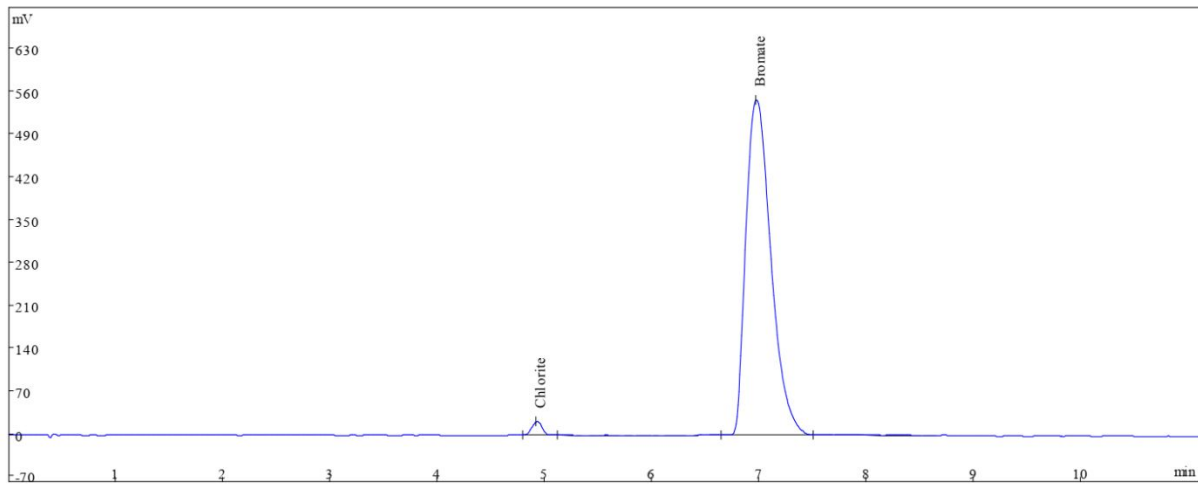


Figure 5: Column PRP-X100, 100 mm x 4.6 mm ID, Cat. No. 650-0106, with 5.0 mM Sodium carbonate, 2.5 mM Sodium hydrogen carbonate and 0.1 mM Sodium thiocyanate as eluent and o-Dianisidine solution as reagent (preparation see EPA 317), detection at 440 nm.

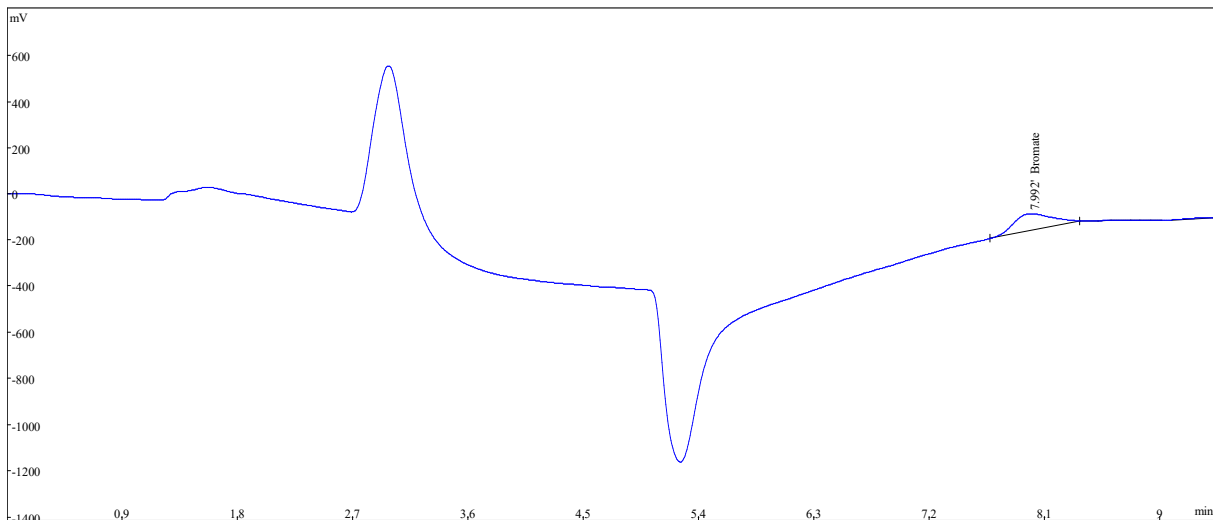


Figure 6: Column PRP-X100, 150 mm x 2.1 mm ID, Cat. No. 650-0132, with 200 mM Methane sulfonic acid as eluent and 0.27 M Potassium iodide and 50 µM Ammonium molybdate 4-hydrate as reagent, concentration of 10 ppb for bromate and UV detection at 355 nm.

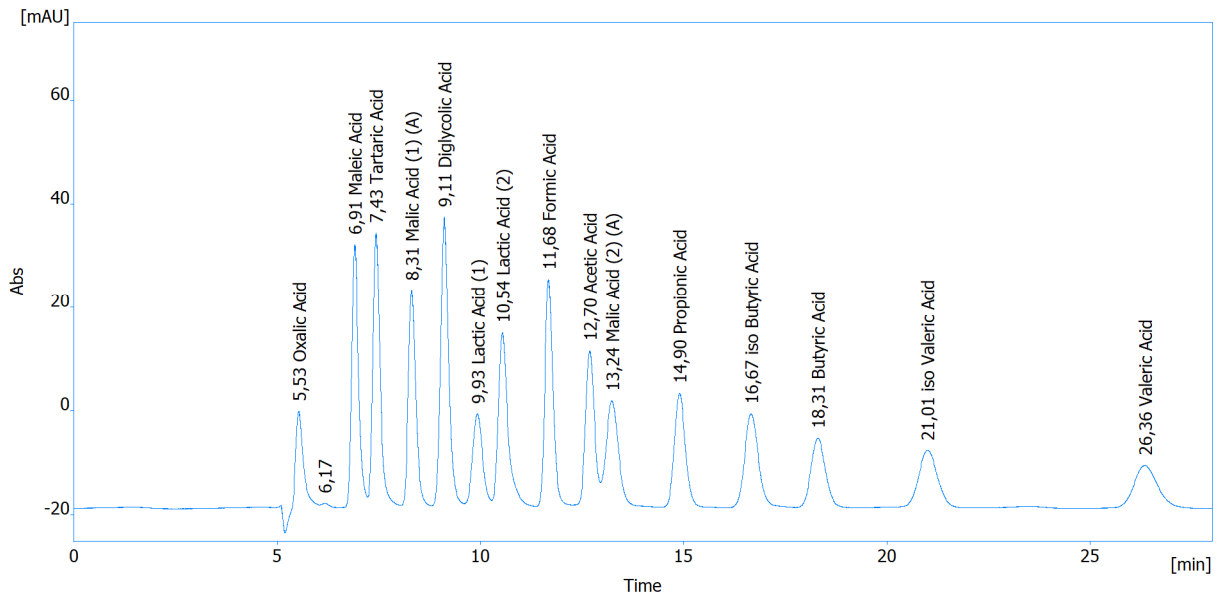


Figure 7: Column Eurokat H, 300 mm x 8 mm ID, Cat. No. 650-0180, with 10.0 mM Sulfuric acid as eluent at 30 °C with indirect UV detection.

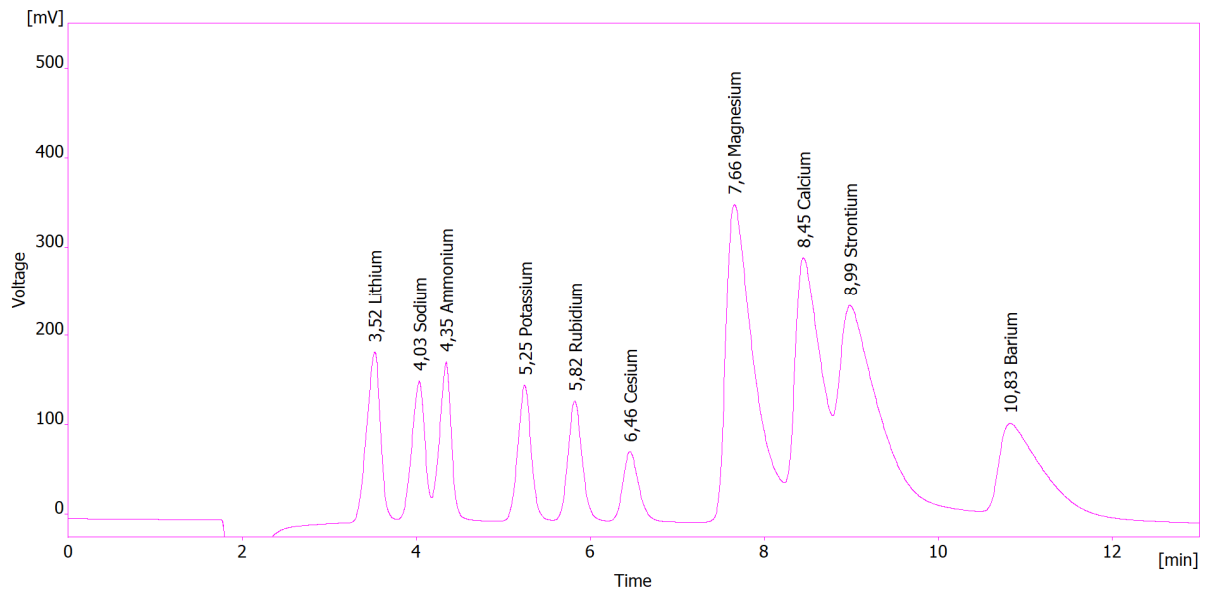


Figure 8: Column PRP-X800, 250 mm x 4.6 mm ID, Cat. No. 650-0155, with 5.0 mM Nitric acid as eluent.

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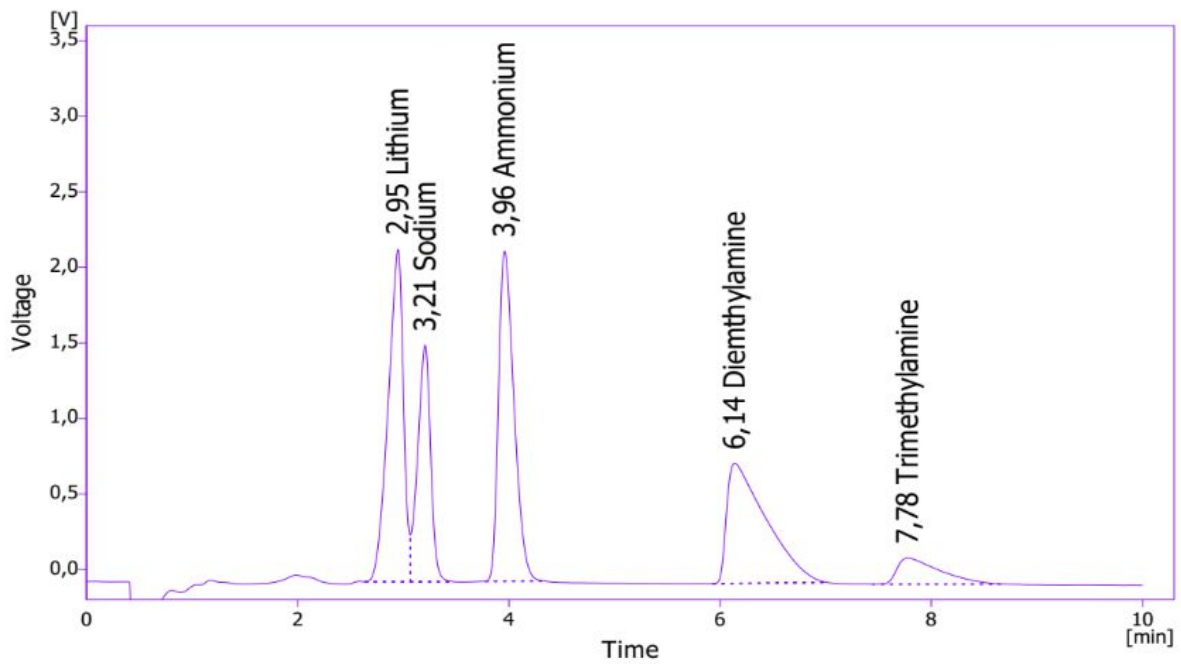
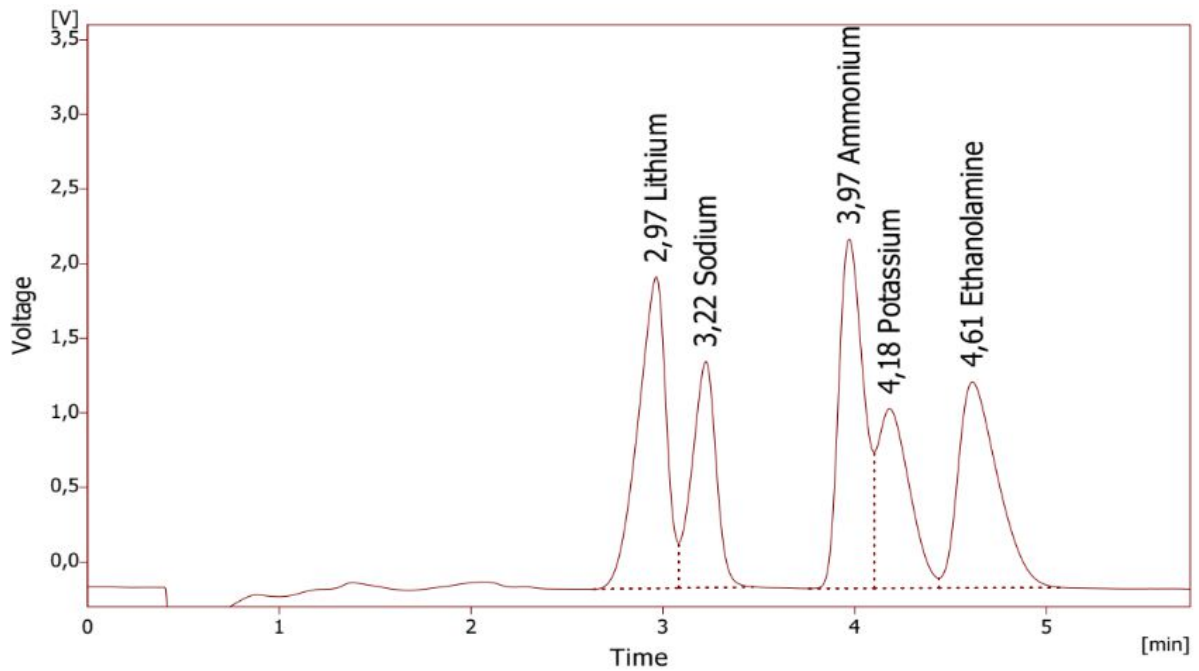


Figure 9: Column PRP-X200, 100 mm x 4.1 mm ID, Cat. No. 650-0108, with 2.0 mM Nitric Acid as eluent.

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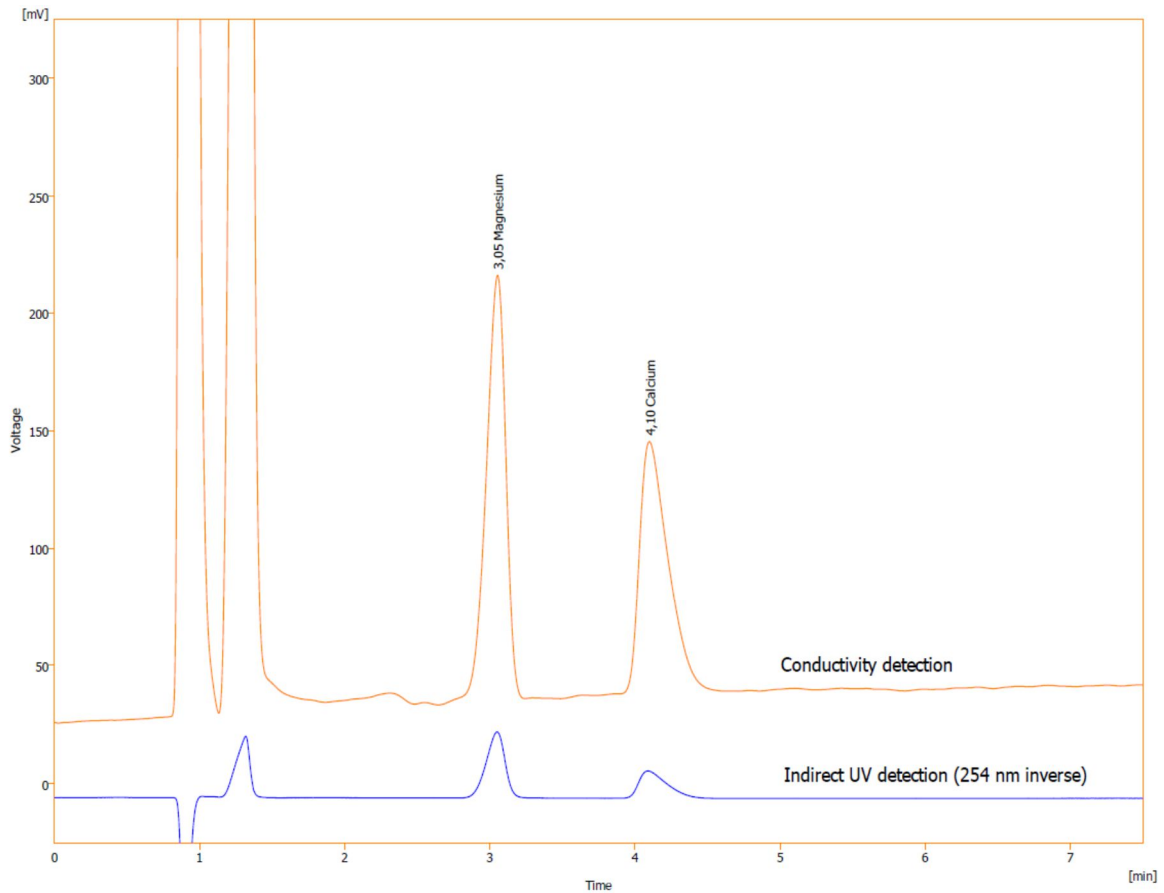


Figure 10: Column PRP-X200, 100 mm x 4.1 mm ID, Cat. No. 650-0108, with 4.0 mM Copper Sulfate as eluent.

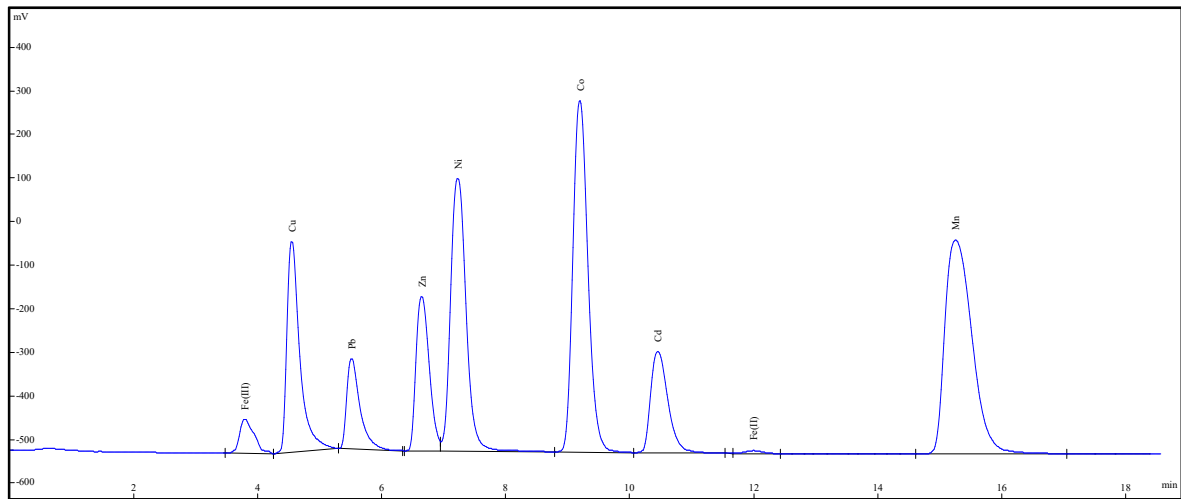


Figure 11: Column Nucleosil SA, 150 mm x 4.6 mm ID, Cat. No. 650-0099, with 100 mM Tartaric acid as eluent and 0.2 mM Pyridylazoresorcinol (PAR) in 3 M Ammonium hydroxide and 1 M Acetic acid as reagent and VIS detection at 530 nm.

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Accessories	
<input type="checkbox"/>	Accessory Kit: (Parts can be reordered individually) Syringes & adapter or needle, Tubing/capillaries, diverse, Fittings, diverse, Tube cutter with reserve blades, Liquid for pump head backflush and Snap ring bottles with caps (sampler) or Injection syringe and needle port (manual)
<input type="checkbox"/>	Suppressor Column Set
<input type="checkbox"/>	Tray preparative for 12 vials: dimensions 47 mm (max) x 22 mm AD
<input type="checkbox"/>	Vials and caps

Additional Arrangements		
Installation by a technician from <i>membraPure GmbH</i>	Yes <input type="checkbox"/>	No <input type="checkbox"/>
System Training at <i>membraPure GmbH</i> side	Yes <input type="checkbox"/>	No <input type="checkbox"/>
System Training at Customer side	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Others:		

The device complied above corresponds to the concept of the <u>customer</u> and the possibilities of the company <u>membraPure GmbH</u> .		
Date:	Signature Customer:	Signature membraPure GmbH: