PSS

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10307 - Column Application Note
Characterization of Poly(vinyl alcohol)

Poly(vinyl alcohol) (PVOH, PVA or PVAL) is a water-soluble synthetic polymer. It has excellent film forming, emulsifying, and adhesive properties. It is also resistant to oil, grease and solvent. Unlike most vinyl polymers, PVA is not prepared by polymerization of the corresponding monomer. The monomer, vinyl alcohol, almost exclusively exists as the tautomeric form, acetaldehyde. PVA instead is prepared by partial or complete hydrolysis of polyvinyl acetate to remove acetate groups.

Experimental Setup

Mobile Phase:	Water Sodium chloride 0.1M Methanol (10-30%)
Stationary Phase:	PSS SUPREMA
Flow rate [mL/min]:	1,00
Temperature [°C]:	25
Detection:	Shodex-RI71
Calibration:	Kit Pullulan
Data processing:	PSS WinGPC

Recommandations for Sample Concentration

narrow PDI
M 100 Da - 10 000 Da:	2 g/L
M 10 000 Da - 1 000 000 Da:	1-2 g/L
M > 1 000 000 Da:	0.5 g/L or less

broad PDI (>1.5)
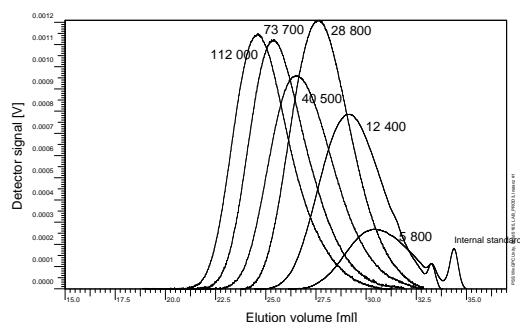|	
all molar masses:	3.0 - 5.0 g/L
Injection volume [µL]:	20

Suitable Columns

low molecular weights:	precolumn, 100 Å, 100 Å
medium molecular weights:	precolumn, 30 Å, 1 000 Å, 1 000 Å
high molecular weights:	precolumn, 100 Å, 3 000 Å, 3 000 Å
ultrahigh molecular weights:	

Overlay of different molar masses (samples with a broad molar mass distribution)

separation on PSS SUPREMA

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