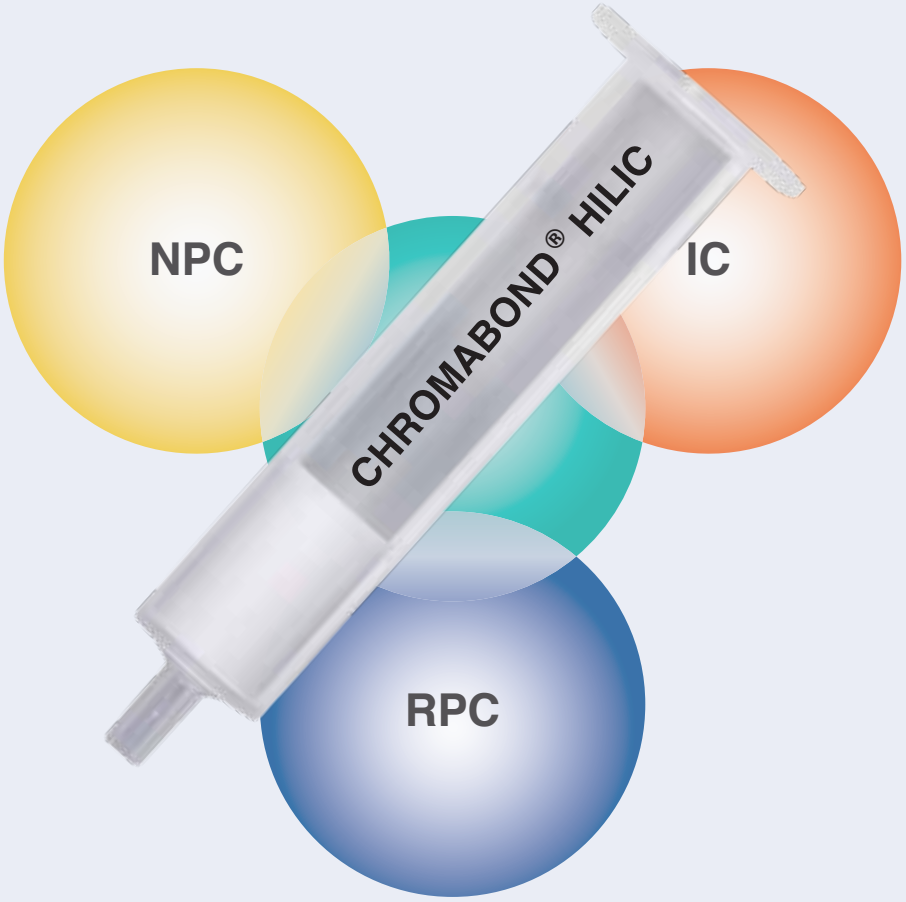
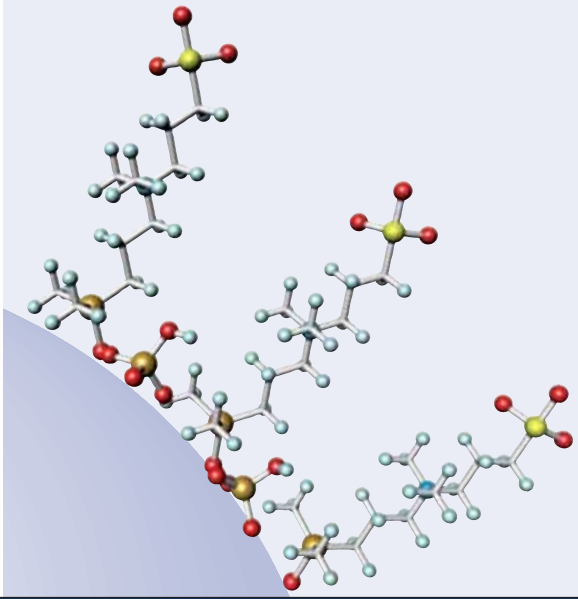
Chromatography

CHROMABOND® HILIC





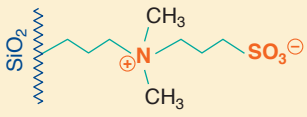
professional SPE for polar analytes

MACHEREY-NAGEL
www.mn-net.com
AZ Chrom s.r.o. azetchrom@hplc.sk www.azetchrom.sk
MN Since 1911

CHROMABOND® HILIC

zwitterionic phase with ammonium – sulfonic acid modification

- Base material silica, pore size 60 Å, particle size 45 µm, specific surface 500 m^2/g, pH stability 2–8, carbon content 7%, polar
- Recommended application: polar organic acids and bases, polar natural compounds, nucleosides, oligonucleotides, amino acids, peptides, water-soluble vitamins



A water-rich layer is formed on the surface of the adsorbent, which enables stronger interactions for polar than for nonpolar analytes. Thus polar analytes are more strongly retained than nonpolar compounds. This behavior is inverse (orthogonal) to RP materials like, e.g., CHROMABOND® C_{18} ec.

In HILIC-HPLC (e. g. NUCLEODUR® HILIC) increase of the portion of water in the eluent results in reduction of the retention times – consequently enrichment in SPE is the more difficult, the higher the portion of water in the sample matrix. Elution of the analytes is achieved with water.

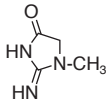
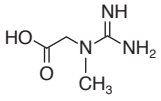
Creatinine and creatine from water: variation of the organic solvent

Column type:
CHROMABOND® HILIC, 3 mL, 500 mg
REF 730593

Sample pretreatment: dilute 250 µL aqueous sample (10 µg/mL) with 750 µL THF, dioxane or acetonitrile
Column conditioning: 1 mL water
Equilibration: 5 mL THF, dioxane or acetonitrile
Sample application: dropwise pass the sample through the column
Column washing: 3 x 1 mL THF, dioxane or acetonitrile
Elution: 1 mL water

Further analysis:
HPLC with NUCLEODUR® HILIC acc. to MN Appl. No. 122990

Recovery rates [%]:

Compound		
	Creatinine	Creatine
THF	105 %	101 %
Dioxane	83 %	95 %
Acetonitrile	0 %	97 %

MN Appl. No. 305590

Standard protocol

Column type:
CHROMABOND® HILIC, 3 mL, 500 mg
REF 730593

Sample pretreatment:
A high portion of acetonitrile in the sample is recommended. Aqueous samples have to be diluted with acetonitrile (recommendable: water – acetonitrile (1:3, v/v)). Dioxane or THF can be used instead of acetonitrile.
Column conditioning: 1 mL water
Equilibration: 6 mL acetonitrile*
Sample application: dropwise pass the sample through the column
Column washing: if necessary 0.5–2 mL acetonitrile*
Elution: 1–2 mL water (depending on the analyte)

* or the organic solvent, the sample is diluted with

Further analysis: if necessary, evaporate and redissolve in a suitable solvent; HPLC or GC

MN Appl. No. 305580

Enrichment of ascorbic acid from urine

Column type:
CHROMABOND® HILIC, 3 mL, 500 mg
REF 730593

Sample pretreatment:
dilute 250 µL urine (10 µg/mL) with 750 µL THF or dioxane
Column conditioning: 1 mL water
Equilibration: 6 mL THF or dioxane
Sample application: dropwise pass 1 mL sample through the column
Column washing: 0.5 mL THF or Dioxan
Elution: 2 mL water

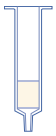
Further analysis:
HPLC with NUCLEODUR® HILIC acc. to MN Appl. No. 122940

Recovery rates [%]:

	CHROMABOND® HILIC	Sequant™ HILIC
THF	97 %	< 10 %
Dioxane	93 %	< 10 %

MN Appl. No. 305600

Ordering information

	Volume	Adsorbent weight		Pack of
	**CHROMABOND® HILIC polypropylene columns**			
		500 mg	1 g	
	3 mL	**730593**		50
	6 mL	**730594**	**730596**	30
	**CHROMABOND® HILIC adsorbents**			
			730643	100 g

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www.mn-net.com
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