New accessories for ion chromatography

Post-Column Reactor PCR – more than just an accessory

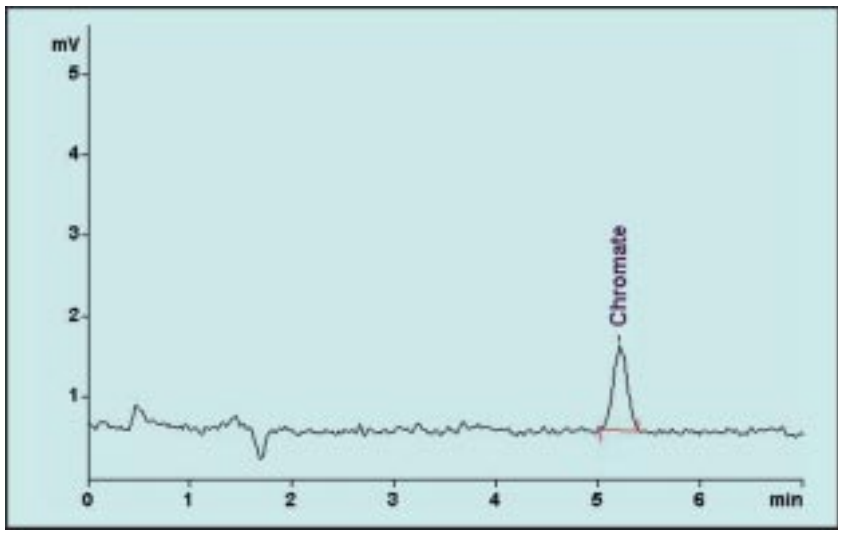
The new 6.2836.000 Post-Column Reactor (PCR) complements our comprehensive range of products for ion chromatography. This module permits the use of derivatization techniques and thus opens up additional detection possibilities. In this way the range of ion chromatography applications is extended even further.

Certain ions, e.g. transition and heavy metal ions, are either difficult or even impossible to determine with the conductivity or direct UV/Vis detection methods typically used in IC. In such cases post-column derivatization can be applied. By reaction with a suitable color reagent the ions are converted into colored compounds that can then be detected photometrically. Several standard methods dealing with ion chromatography specify this type of detection.

With the new PCR module from Metrohm, post-column derivatizations can now be carried out reliably and reproducibly. The color reagent is added via a T piece using a peristaltic pump (e.g. 752 IC Pump Unit); mixing then takes place in a special «knitted» reaction coil. The reactor absorbs pulsations, thus guaranteeing a constant flow of reagent and therefore a smooth baseline.

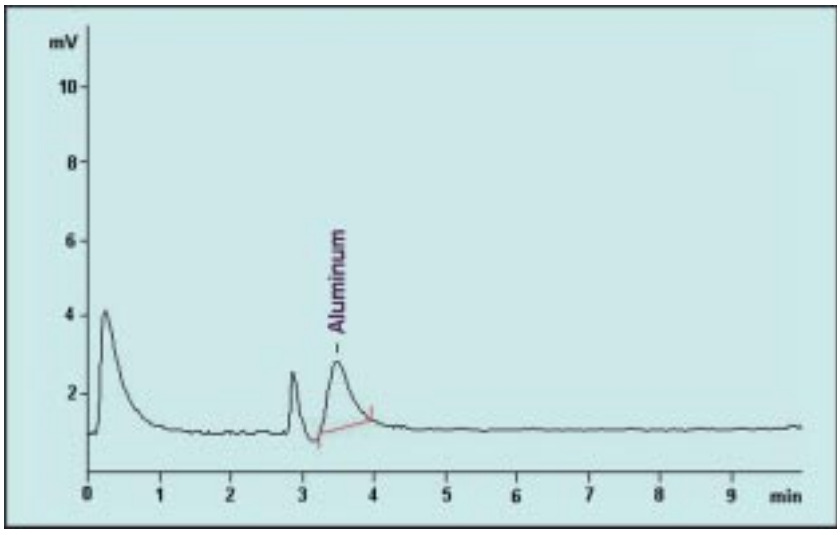
In combination with a UV/Vis detector, the post-column reactor allows the determination of those ions that undergo simple color reactions. Lower detection limits can be achieved with this method; in addition, the selectivity is improved. For example, chromate and bromate can be determined down to very low concentrations and in accordance with the standard methods (EPA Method 218.6 for chromate, EPA 317.0 for bromate). In the field of cation analysis the use of UV/Vis detection as a complement to conductivity detection also opens up interesting application possibilities.

Metrohm's new 6.2836.000 Post-Column Reactor.



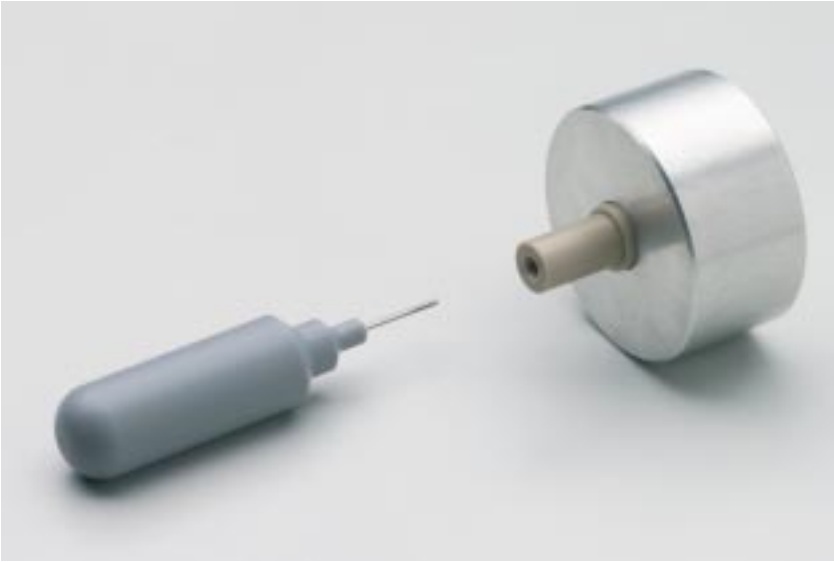
Determination of 5 ppb chromate in ultrapure water using post-column derivatization and UV/Vis detection (wavelength 540 nm).

Separation column:	Metrosep A Supp 5 – 100 (6.1006.510)
Eluent:	12.8 mmol/L Na_2CO_3, 4.0 mmol/L $NaHCO_3$
Flow rate:	0.7 mL/min
Post-column reagent:	0.5 g/L 1,5-diphenylcarbazide, 10% methanol, 0.5 mol/L H_2SO_4



Determination of 10 ppb aluminum in ultrapure water using post-column derivatization and UV/Vis detection (wavelength 570 nm).

Separation column:	Metrosep C 2 – 250 (6.1010.230)
Eluent:	5.6 mmol/L H_2SO_4, 30.0 mmol/L $(NH_4)_2SO_4$
Flow rate:	1.0 mL/min
Post-column reagent:	0.2 mmol/L pyrocatechol violet, 250 mmol/L sodium acetate, 250 mmol/L acetic acid



Practical tool for IC pump maintenance

The new 6.2617.020 tool for valve cartridges simplifies the maintenance and servicing of IC pumps. This practical aid allows you to disassemble the valve cartridges quickly and safely. Practiced IC users are thus provided with the possibility of carrying out all cleaning and maintenance work at the pump head themselves.

With the new 6.2617.020 tool you can disassemble the valve cartridges of your IC pumps easily and safely.

Highly topical: IC Newsletter

Since March 2002 Metrohm Ltd. has sent an E-Mail newsletter every month to interested customers and users. This newsletter informs about our IC instruments, columns and software, describes interesting applications and provides information on events and literature concerned with ion chromatography. In short: You learn everything worth knowing from the world of IC – free of charge and up to date.

Take advantage of this new Metrohm service! The IC Newsletter is freely accessible to anyone who is interested. The only prerequisite is that you fill out the corresponding form, which can be found on our Website **www.metrohm.com** as well as under the address **www.ic-userclub.com**.

Should you later want to stop receiving the Newsletter then this can be done quickly and without any red tape – one mouse-click is enough.

Education is an admirable thing, but it is well to remember from time to time that nothing that is worth knowing can be taught.

Oscar Wilde