Zirconia or zirconium dioxide (Zr02) is a metal oxide that exists in a variety of crystalline and amorphic forms. The chief advantage of Zirconia in comparison with the traditional silica base packings is its unique and specific selectivity as well as outstanding thermal stability and chemical resistance.

In contrast to silica, Zirconium is totally stable within the complete pH range (0-14) and allows operation at temperatures as high as 200°C.

With respect to the polymeric packings on the market, Zirconia has an advantage in its exceptional mechanical resistance, and in not having the problems of incompatibility with certain organic solvents as is the case with the polymeric packings.

Available in a variety of particle sizes, between 3 and 20 µm, the operation of separations from ultrarapid to semi preparative is possible.

- Superior selectivity and better chromatographic peaks in the separation of basic compounds.
- Easy transfer of methods from conventional ODS columns.
- Stable between pHs of 1 to 14.
- Excellent thermal stability for rapid separations.
- High efficiency (> 120,000 plates/metre.)

Zirchrom™ -PDB

Composed of particles of ultra -stable Zirconia, coated with fine layer of cross linked polybutadiene. Its selectivity for non-ionizable compounds is similar to that of traditional packings C8 or C18. In the case of ionizable compounds, multiple secondary interactions can help the appropriate resolution of analytes, permitting a practically unlimited adjustment of operating conditions.

Thanks to its thermal stability, times of analysis can be reduced by half simply by raising the operating temperature into the 50°C range.

DiamondBond™ -CI8

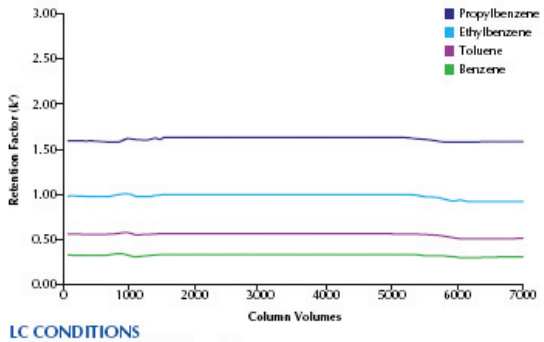
- Excellent selectivity for acidic compounds.
- pH stable between 1 and 14
- Excellent thermal stability for rapid analyses.

This packing contains CI8 groups co-valently bonded to the carbon coated surface of the Zirconia. The extreme strength of the carbon-carbon bonds practically eliminates any bleeding of the column whatever, improving derived from the base line, preventing falls in retention times and bettering the sensitivity in all LC/MS applications.

References

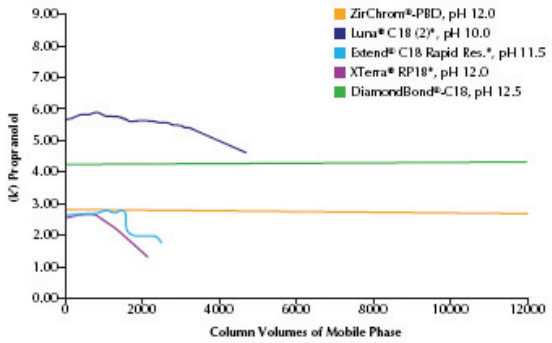
The catalogue references for Zirchrom R are made in the following way: PPP-XXYY, where PPP is the number of the phase, XX is the length of the column and YY is the diameter of the same. For example,DBOI-I546 describes a column of 15 cm by 4.6 mm containing DiamondBond -CI8.

Exceptional Stability at High pH



LC CONDITIONS
Mobile phase: 15/85 ACN/Water, pH 13
Flow rate: 1.0 ml/min
Column: ZirChrom®-PBD, 150 x 4.6 mm i.d.

Stability Comparison of Leading HPLC Columns



Column Format

5 cm Columns	*15 cm Columns*	*Guard Columns Holders*
0521 (5 cm x 2.1 mm)	1521 (15 cm x 2.1 mm)	852-00 (use with 2.1 mm)
0546 (5 cm x 4.6 mm)	1546 (15 cm x 4.6 mm)	850-00 (use with 4.6 mm)

10 cm Columns	*Guard Columns*
1021 (10 cm x 2.1 mm)	G20 (use with 2.1 mm)
1046 (10 cm x 4.6 mm)	G20 (use with 4.6 mm)

Ordering Information

Phase Number	Phase Name	Mode of use
DB01	DiamondBond-C18	Reversed-Phase
ZR01	ZirChrom-CARB	Reversed-Phase
ZR02	ZirChrom-PHASE	Normal Phase and SEC
ZR03	ZirChrom-PBD	Reversed-Phase
ZR04	ZirChrom-WCX	Weak cation-Exchange
ZR06	ZirChrom-SAX	Strong Anion-Exchange
ZR07	ZirChrom-SHAX	Strong Anion-Exchange
ZR08	ZirChrom-PEZ	Cation-Exchange for Proteins
ZR09	ZirChrom-PS	Reversed-Phase