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# MEGA®

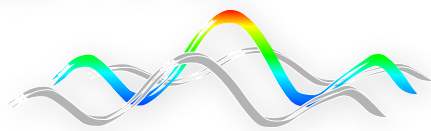
improve your GC analysis

CUSTOM  
DEDICATED  
COLUMNS

**GC-MS**  
columns

**dex xeb**  
chiral columns

**mega** <sup>2D™</sup>  
columns



**FAST-GC**  
solutions

**MegaHT**  
High Temperature Columns

since  
**1980**

general purpose  
**RETENTION  
GAPs**

**PRESS-FIT**  
connectors

**GC products**  
2014

Since 1980 we offer:

- the most complete range of stationary phases for Conventional-GC, FAST-GC, Wide Bore GC, Chiral-GC, GC-MS
- special and innovative products for Multidimensional-GC (including GCxGC), High Temperature GC and more
- unsurpassed Quality, Efficiency and Inertness, we produce and test each column one-by-one to assure a perfect column-to-column reproducibility
- custom products by request with no additional cost
- support and services for your GC analysis

our experience in Gas Chromatography at Your service

## GC Columns Dimensions Available

FAST	I.D.	<b>0.05 mm</b>	<b>0.075 mm</b>	<b>0.10 mm</b>	<b>0.15mm</b>
	Length	from 2 to 5 m	from 2 to 8 m	from 2 to 15 m	from 2.5 to 30 m
	Film Thickness *	from 0.05 to 0.25 $\mu\text{m}$	from 0.05 to 0.50 $\mu\text{m}$	from 0.05 to 1.00 $\mu\text{m}$	from 0.05 to 1.40 $\mu\text{m}$

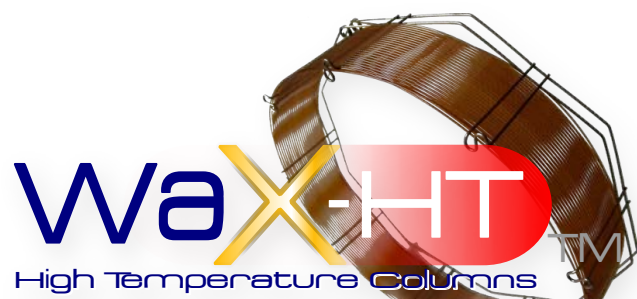
CONVENTIONAL	I.D.	<b>0.18 mm</b>	<b>0.20 mm</b>	<b>0.25 mm</b>	<b>0.32mm</b>
	Length	from 5 to 60 m	from 5 to 60 m	from 5 to 100 m	from 5 to 100 m
	Film Thickness *	from 0.05 to 1.50 $\mu\text{m}$	from 0.05 to 1.50 $\mu\text{m}$	from 0.05 to 3.00 $\mu\text{m}$	from 0.05 to 5.00 $\mu\text{m}$

WIDE BORE	I.D.	<b>0.45 mm</b>	<b>0.53 mm</b>
	Length	from 10 to 75 m	from 10 to 75 m
	Film Thickness *	up to 5.00 $\mu\text{m}$	up to 5.00 $\mu\text{m}$

Completely customize your product, selecting all combinations of sizes and also asking for out-of-catalog configurations. Since 1980 we develop ad-hoc solutions for your specific analytical problem. We are able to even tune the selectivity of the stationary phase to respond to particular exigences.

All our stationary phases are available for FAST, Conventional, Wide-Bore and Multidimensional-GC (including GCxGC solutions). Discover moreover our MEGA-DEX chiral columns, our MEGA-HT High Temperature columns and other unique and special products.

## New Products Highlight



**MEGA-WAX HT** column, an unique **PEG stationary phase** able to reach up to **300°C** even in isothermal mode. Especially developed for FAST-GC and GCxGC use. The performances of the MEGA-WAX HT have appeared on LCGC Europe Journal with GCxGC application notes. Click here to go to the webpage that includes the MEGA-WAX HT free literature .



**MEGA-5 MS Xil** column, a new GC-MS silphenylene-based phase that assures **ultra-low bleeding and unsurpassed inertness and efficiency** for your GC-MS analysis. Click here to open and download free technical literature of the new MEGA-5 MS Xil column.



**MEGA-2D** single column, a revolutionary **unique tubing column coated with two in series different stationary phases** for GCxGC and MDGC applications. No connections are needed. Contact us to have more information and discover all the advantages of the MEGA-2D technology also applied to conventional-GC.



**FAST Chiral MEGA-DEX columns line**; today you can speed up your chiral GC separations with **the most complete line of FAST-GC chiral columns**. Contact us to have more info and application notes.

Stationary Phase	T max *	Equivalent to	EPA - USP - Methods **	Applications
<b>MEGA-I</b> 100% methyl polysiloxane	350°C	DB-I, HP-I, AT-I, ZB-I, 007-I, Rtx-I, BP-I, SPB-I, CP Sil 5 CB	EPA: 504.1, 505, 551, 606, 612, 8141A/B, etc.** USP: G1, G2, G9, G38	General purpose column. Solvent impurities, PCBs, simulated distillation, drugs, gases, natural gases, essential oils, semivolatiles, pesticides, phenols, etc.
<b>MEGA-5</b> 5% phenyl, 95% methyl polysiloxane	350°C	DB-5, HP-5, AT-5, ZB-5, 007-5, Rtx-5, BP-5, SPB-5, CP Sil 8 CB	EPA: 506, 611, 604, 607, 608, 8015, 8041, 8082, 8091, etc.** USP: G27, G36, G41	General purpose column. Solvent impurities, PCBs, hydrocarbons, essential oils, semivolatiles, pesticides, etc.
<b>MEGA-SE52</b> 5% phenyl, 95% methyl polysiloxane	350°C	SE52	USP: G27, G36, G41	General purpose column. Solvent impurities, PCBs, hydrocarbons, essential oils, semivolatiles, triglycerides, pesticides, poly-waxes, etc.
<b>MEGA-SE54</b> 5% phenyl, 1% vinyl, 94% methyl polysiloxane	350°C	SE54	-	General purpose column. Solvent impurities, PCBs, hydrocarbons, essential oils, semivolatiles, allergens, pesticides, etc.
<b>MEGA-I701</b> 14% cyanopropylphenyl, 86% methyl polysiloxane	280°C	DB-I701, HP-I701, AT-I701, ZB-I701, 007-I701, Rtx-I701, BP-I0, SPB-I701, CP Sil 19 CB	EPA: 513, 515.2, 552.2, 607, 619, 622, 8091, 8121, etc.** USP: G46	General purpose column. Residual solvents, PCBs, alcohols, oxygenates, pesticides, etc. Ideal as confirmation column and GCxGC use.
<b>MEGA-I7</b> 50% phenyl, 50% methyl polysiloxane	340°C	DB-I7, DB-608, HP-I7, AT-50, ZB-50, 007-I7, Rtx-I7, BPX-50, SPB-50, CP Sil 24 CB	EPA: 604, 608, 619, 8060, 8081 USP: G3, G17	General purpose column. Phthalate esters, herbicides, pharmaceuticals, etc. Ideal as confirmation column and GCxGC use.
<b>MEGA-WAX</b> polyethylene glycol (PEG)	250°C	DB-Wax, HP-Wax, InnoWax AT-Wax, ZB-Wax, 007-CW, Rtx-Wax, BP-20, CP Wax 52 CB	EPA: 602, 603, 619, 8015C USP 467 (OVIs), etc.** USP: G14, G15, G16, etc.	General purpose column. FAMEs, flavor compounds, essential oils, BTEX aromatics, solvents, alcohols, etc. Tune your Wax column polarity! Ask us for more info.
<b>MEGA-I MS</b> low bleeding 100% methyl polysiloxane	350°C	DB-I ms (UI), HP-I ms, ZB-I ms, Rtx-I ms, BPX-I, Equity-I, CP Sil 5 CB ms	EPA: 504.1, 505, 606, etc.** USP: G1, G2, G9, G38	General purpose column for GC-MS use. See MEGA-I phase.
<b>MEGA-5 MS</b> low bleeding 5% phenyl, 95% methyl polysiloxane	350°C	DB-5 ms (UI), HP-5 ms, AT-5 ms, ZB-5 ms, 007-5 ms, Rtx-5 ms, BPX-5, Equity-5	EPA: 513, 528, 552, 610, 613, 1625, 8100, 8141A/B, etc.** USP: G27, G36, G41	General purpose column for GC-MS use. See MEGA-5 phase.

All trademarks mentioned in this document are registered.

\*: the temperature range may change depending on the stationary phase film thickness.

\*\* : download on our website a more complete guide to choose your GC column on the basis of EPA methods, USP requirements and/or ASTM methods (coming soon).

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Stationary Phase	T max *	Equivalent to	EPA - USP - Methods **	Applications
<b>MEGA-5 MS XiI</b> low bleeding silphenylene based MS phase	350°C	DB-5 ms (UI), Rtx-5 ms Sil, SLB-5 ms <b>new column</b>	EPA: 515, 521, 529, 552, 604, 610, 625, 1613, 1625, etc.** USP: G27, G36, G41	General purpose column for GC-MS use. Dioxins and furans, herbicides, phthalate esters POCs, chlorinated acids, etc.
<b>MEGA-35 MS</b> low bleeding 35% phenyl, 65% methyl polysiloxane	340°C	DB-35 ms, BPX-35, BPX-608, MR2, Rtx-35 Sil ms	EPA: 507, 508, 552, 614, 615, 622, etc.** USP: G28, G32, G42	General purpose column for GC-MS use. See MEGA-35 phase.
<b>MEGA-17 MS</b> low bleeding 50% phenyl, 50% methyl polysiloxane	340°C	DB-17 ms, Rtx-17 Sil ms	EPA: 505, 610, 619, 614, 8040, 8041, etc.** USP: G3, G17	General purpose column for GC-MS use. See MEGA-17 phase.
<b>MEGA-225 MS</b> low bleeding 25% cyanopropyl, 25% phenyl, 50% methyl polysiloxane	260°C	<b>unique</b> column	EPA: 8095 USP: G7, G19	General purpose column for GC-MS use. See MEGA-225 phase.
<b>MEGA-WAX MS</b> low bleeding polyethylene glycol (PEG)	250°C	Stabilwax, ZB-Wax Plus, InnoWax, VF-Wax ms	EPA: 602, 603, 619, 8015C, 8121, etc.** USP: G14, G15, G16 etc.	General purpose column for GC-MS use. See MEGA-WAX phase.
<b>MEGA-10</b> 100% cyanopropyl polysiloxane	260°C	HP-88, AT-Silar, Silar 10 Rtx-2560, SP-2560 BPX-70, CP Sil 88	EPA: 613, 1613, 8290B USP: G5, G8, G48	High polarity column ideal for <i>cis/trans</i> FAMEs and dioxins isomers analysis.
<b>MEGA-101</b> 100% methyl polysiloxane	350°C	OV-101	USP: G1, G2, G9, G38	General purpose apolar column.
<b>MEGA-13</b> 13% phenyl, 87% methyl polysiloxane	340°C	CP Sil 13 CB	EPA: 601, 602, 624	General purpose column, ideal as confirmation column.
<b>MEGA-20</b> 20% phenyl, 80% methyl polysiloxane	340°C	AT-20, 007-7, Rtx-20, SPB-20	USP: G28, G32	General purpose column, ideal as confirmation column.

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Stationary Phase	T max *	Equivalent to	EPA - USP - Methods **	Applications
<b>MEGA-200</b> trifluoropropyl methyl polysiloxane	300°C	DB-200, DB-210, AT-210 007-210, Rtx-200, SP-2401, VF-200 ms	EPA: 551, 612, 625, 8095, etc.** USP: G6	Unique selectivity column. Freon fluorocarbons, ketones, alcohols, organophosphorus pesticides, etc.
<b>MEGA-225</b> 25% cyanopropyl, 25% phenyl, 50% methyl polysiloxane	260°C	DB-225, HP-225, AT-225, 007-225, Rtx-225, BP-225, CP Sil 43 CB	EPA: 8095 USP: G7, G19	Mid-to-high polarity phase. Carbohydrates, sterols, flavor compounds, etc.
<b>MEGA-35</b> 35% phenyl, 65% methyl polysiloxane	340°C	DB-35, HP-35, AT-35, ZB-35, 007-11, MR2 Rtx-35, SPB-35, SPB-608	EPA: 507, 508, 513, 551.1, 615, 622, etc.** USP: G28, G32, G42	General purpose column. Pesticides, PCBs, substituted polar compounds, phenols, etc. Ideal as confirmation column.
<b>MEGA-50</b> 50% cyanopropyl, 50% methyl polysiloxane	260°C	DB-23, Silar 5, Rtx-2330, SP-2330	USP: G8	Mid-to-high polarity phase. Carbohydrates, sterols, FAMEs, flavor compounds, etc. Confirmation column.
<b>MEGA-624</b> 6% cyanopropylphenyl, 94% methyl polysiloxane	280°C	DB-624, HP-624, AT-624, ZB-624, 007-624, Rtx-624, Vocol, SPB-624, VF-624 ms	EPA: 501.3, 502.1, 502.2, 601, 624, 1624, 8020, 8021, etc.** USP: G43, 467 (OVIs)	General purpose column. Ideal for volatile organic pollutants, purgeable aromatics, purgeable hydrocarbons, VOCs, etc.
<b>MEGA-ACID FFAP</b> acid modified polyethylene glycol (PEG)	250°C	DB-FFAP, AT-1000, 007-FFAP, Stabilwax-DA, BP-21, SPB-1000 Nukol, CP Wax 58 CB	EPA: 8032 USP: G14, G15, G16, G25, G35, G39	General purpose column. Ideal for free acids, FAMEs, BTEX aromatics, flavor compounds, alcohols, spirits, polar compounds, etc.
<b>MEGA-ALC 1&amp;2</b> proprietary phases	n.d.	DB-ALC 1&2, Rtx-BAC 1&2	-	Application-specific columns for blood alcohols testing.
<b>MEGA-BASIC</b> proprietary unique phase for basic compounds	n.d.	unique column	-	Application-specific column for basic compounds analysis (i.e. amines).
<b>MEGA-BIODIESEL</b> phases for biodiesel analysis	370°C (UNI EN ISO 14105)	-	UNI EN ISO 14105 (ASTM 6584), UNI EN ISO 14103	Application-specific columns for free and total glycerine (phase stable up to 370°C) and for FAMEs in biodiesel analysis.

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Stationary Phase	T max *	Equivalent to	EPA - USP - Methods **	Applications
<b>MEGA-DAI 1&amp;2</b> proprietary unique phases for Direct Aqueous Injections	n.d.	unique columns	-	Application-specific columns for the introduction of aqueous samples, thus minimizing preparation.
<b>MEGA-JXR</b> 100% methyl polysiloxane	350°C	no equivalent on the market	USP: G1, G2, G9, G38	General purpose apolar column.
<b>MEGA-LAP</b> proprietary unique phase for Lipid Analysis	370°C	unique column	-	Application-specific column for lipids, sterols and triglycerides analysis.
<b>MEGA-PAH</b> unique phase for Polycyclic Aromatic Hydrocarbons	340°C	unique column	EPA: 610, 8100	Application-specific column for polycyclic aromatic hydrocarbons.
<b>MEGA-PLUS</b> copolymer polyethylene glycol + methyl polysiloxane	n.d.	Agilent DX columns series	EPA: 505	Discover new selectivities! Choose also between MEGA-PLUS 25 (25% PEG), MEGA-PLUS 75 (75% PEG)...and others! Contact us! We can customize this phase as you need!
<b>MEGA-POF 1&amp;2</b> proprietary phases for pesticides, herbicides and insecticides	n.d.	new columns MRI (MEGA-POF I)	EPA: 622	Application-specific columns developed for pesticides, herbicides, insecticides analysis etc.
<b>MEGA-I PONA</b> PDMS optimized for hydrocarbons analysis	350°C	DB-Petro, HP-Pona, Rtx-I Pona, Petrocol	-	Phase optimized for DHA (Detailed Hydrocarbons Analysis).
<b>MEGA-PS255</b> 1% vinyl, 99% methyl polysiloxane	350°C	no equivalent on the market	-	Phase that is extremely suitable for high film thickness columns to analyze solvents, alcohols, volatiles, etc.
<b>MEGA-PS264</b> 5.8% phenyl, 0.2% vinyl, 94% methyl polysiloxane	350°C	no equivalent on the market	-	Phase that is extremely suitable for high film thickness columns to analyze solvents, alcohols, volatiles, etc.

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Stationary Phase	T max *	Equivalent to	EPA - USP - Methods **	Applications
<b>MEGA-SE30</b> 100% methyl polysiloxane	350°C	SE30	EPA: 504.1, 505, 606, 8141A USP: G1, G2, G9, G38	General purpose apolar column.
<b>MEGA-SOLVE 1&amp;2</b> proprietary unique phases for complex solvents mix analysis	n.d.	unique columns TCEP (MEGA-SOLVE 2)	-	Application-specific columns developed for complex solvents mixtures analysis. MEGA-SOLVE 2 is ideal for aromatics and oxygenates in gasoline.
<b>MEGA-TNT</b> unique phase	n.d.	unique column	EPA: 8091, 8095	Application-specific column for explosives analysis, nitroaromatics, nitramines, nitrate esters.
<b>MEGA-VOC 1&amp;2</b> proprietary phases for Volatile Organic Compounds	n.d.	new columns	-	Application-specific columns for volatile organic compounds (OVIs), solvents and purgeable compounds.
<b>MEGA-DEX DAC beta</b>	230°C		chiral-enantiomeric separations	Diacetyl TBS beta cyclodextrin based column. See and download on our website the applications and the table with hundreds of chiral compounds separated on our MEGA-DEX columns.
<b>MEGA-DEX DAC gamma</b>	230°C		chiral-enantiomeric separations	Diacetyl TBS gamma cyclodextrin based column. See and download on our website the applications and the table with hundreds of chiral compounds separated on our MEGA-DEX columns.
<b>MEGA-DEX DET beta</b>	230°C		chiral-enantiomeric separations	Diethyl TBS beta cyclodextrin based column. See and download on our website the applications and the table with hundreds of chiral compounds separated on our MEGA-DEX columns.
<b>MEGA-DEX DET gamma</b>	230°C		chiral-enantiomeric separations	Diethyl TBS gamma cyclodextrin based column. See and download on our website the applications and the table with hundreds of chiral compounds separated on our MEGA-DEX columns.
<b>MEGA-DEX DMP beta</b>	230°C		chiral-enantiomeric separations	Dimethyl-pentyl TBS beta cyclodextrin based column. See and download on our website the applications and the table with hundreds of chiral compounds separated on our MEGA-DEX columns.

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Stationary Phase	T max *	Equivalent to	EPA - USP - Methods **	Applications
<b>MEGA-DEX</b> DMT beta	230°C		chiral-enantiomeric separations	Dimethyl TBS beta cyclodextrin based column. See and download on our website the applications and the table with hundreds of chiral compounds separated on our MEGA-DEX columns.
<b>MEGA-I HT</b> 100% methyl polysiloxane for high temperature	380°C	high temperature column DB-1 ht	-	High temperature general purpose column. See MEGA-I phase.
<b>MEGA-17 HT</b> high temperature 50% phenyl, 50% methyl polysiloxane	370°C	high temperature column DB-17 ht	-	High temperature general purpose column. See MEGA-17 phase.
<b>MEGA-5 HT</b> high temperature 5% phenyl, 95% methyl polysiloxane	380°C	high temperature column DB-5 ht	-	High temperature general purpose column. See MEGA-5 phase.
<b>MEGA-SE54 HT</b> high temperature 5% phenyl, 1% vinyl, 94% methyl polysiloxane	380°C	high temperature unique column	-	High temperature general purpose column. See MEGA-SE54 phase.
<b>MEGA-WAX HT</b> high temperature polyethyleneglycol (PEG)	300°C	high temperature unique column	-	High temperature unique PEG phase. Extend the temperature limits of your FAST-GC and GCxGC analysis while using a polar Wax phase!

**FAST-GC**  
solutions

All our stationary phases are available for FAST-GC. Contact us to have more details. You can download on [mega.mi.it](http://mega.mi.it) our free guide to FAST-GC with a tons of application notes!

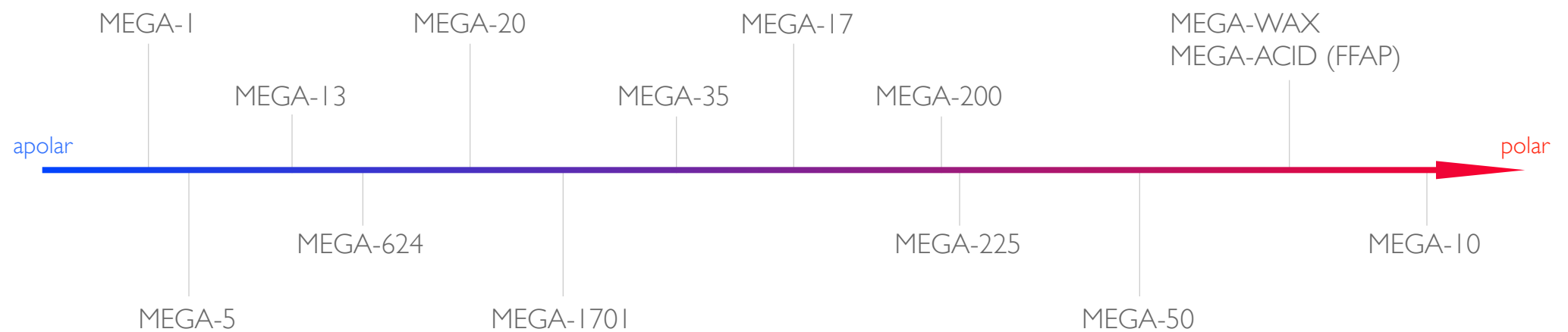
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## Common Phases Polarity Quick View

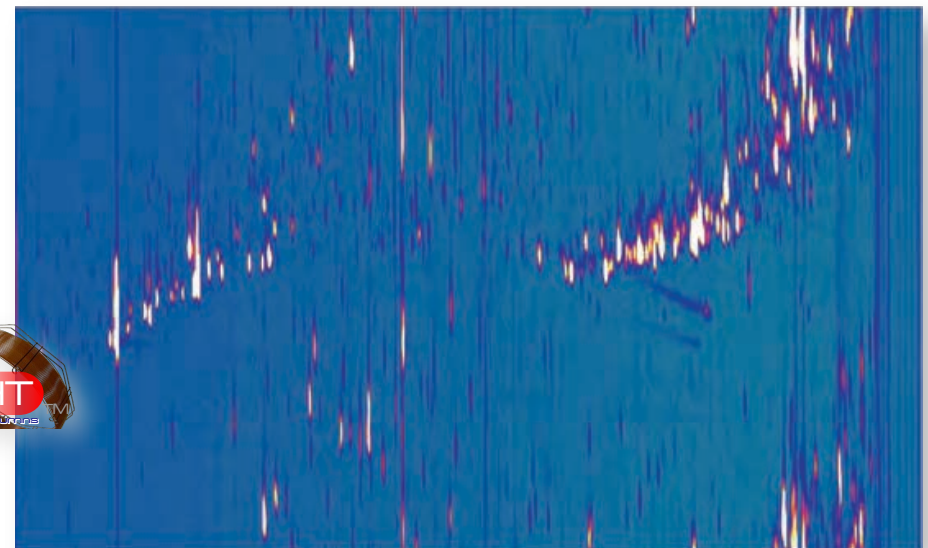


## GCxGC Solutions

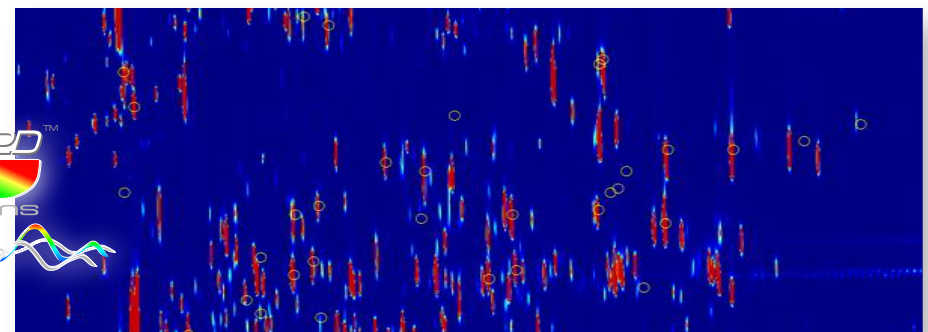
MEGA offers unique and innovative products for your GCxGC analysis.

We can provide completely custom GCxGC solutions, including ready-to-use kits.

Selectivity of the stationary phase plays a fundamental role in GC and this is even more important in GCxGC. Ask us to tune the selectivity of the stationary phase thus to explore new and unique solutions and to optimize the orthogonality and the efficiency of your GCxGC system.

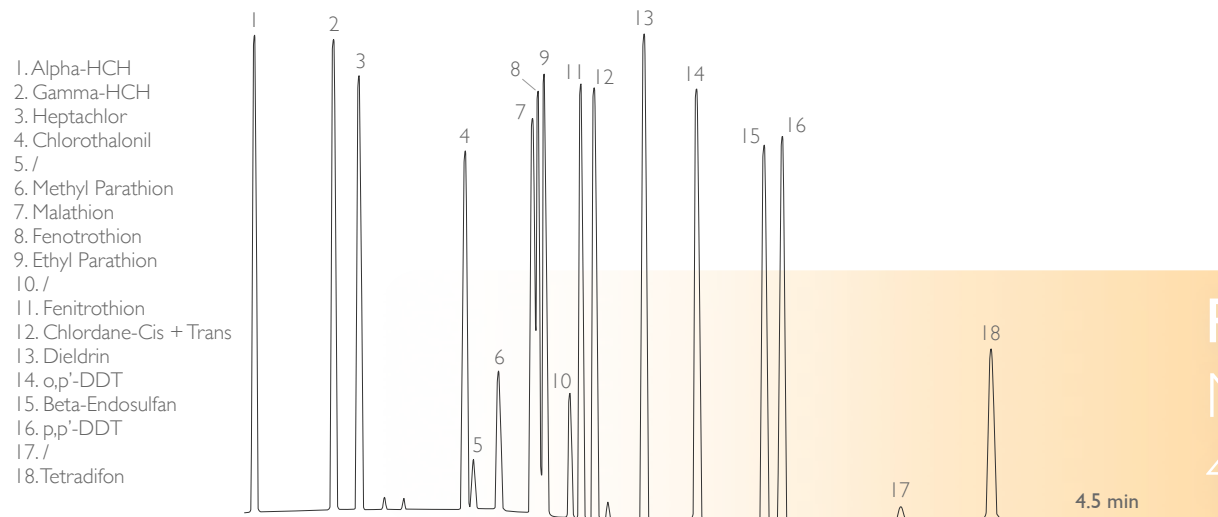


Kunzea essential oil GCxGC analysis using MEGA-WAX HT on 2<sup>nd</sup> dimension.  
Courtesy of R. Shellie et al.



Allergens std. Mix GCxGC analysis on MEGA-2D column.  
Courtesy of University of Torino, Prof. C. Bicchi, Prof. C. Cordero et al.

FAST-GC  
solutions



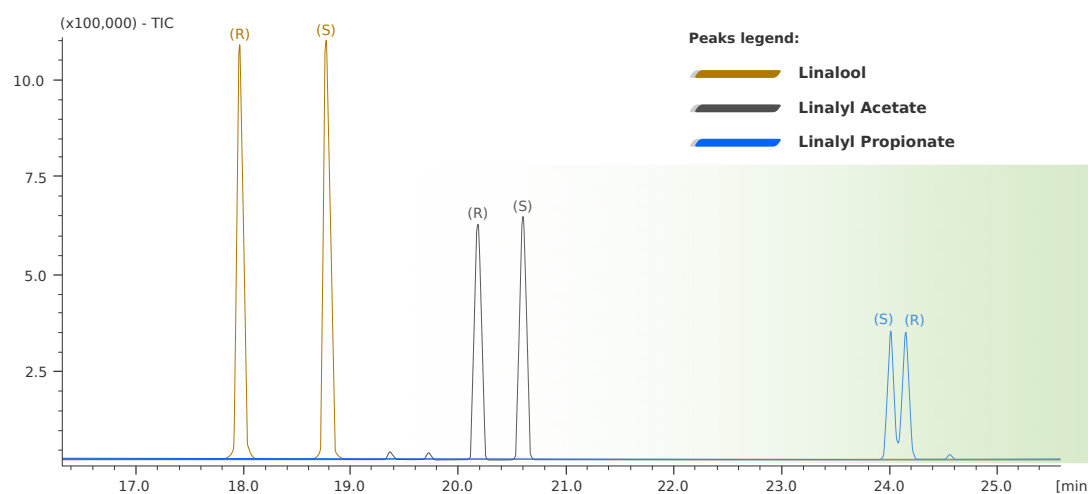
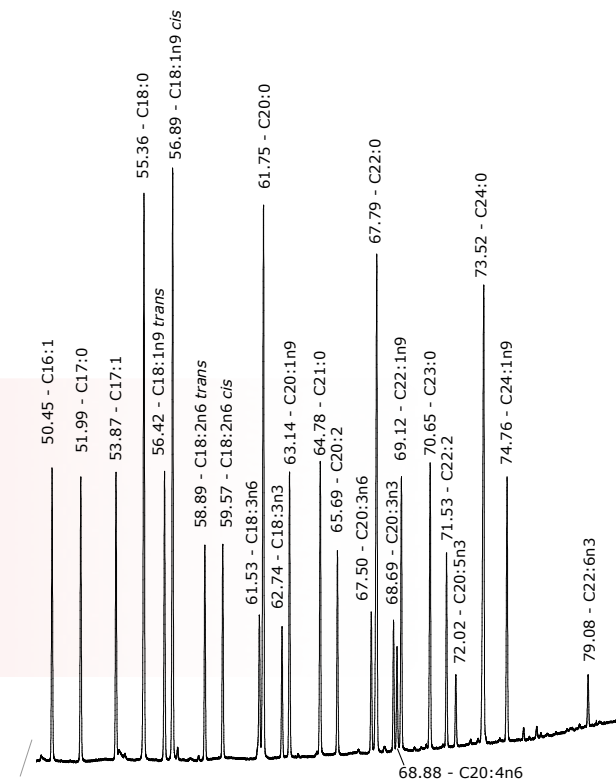
1. Alpha-HCH
2. Gamma-HCH
3. Heptachlor
4. Chlorothalonil
5. /
6. Methyl Parathion
7. Malathion
8. Fenotrothion
9. Ethyl Parathion
10. /
11. Fenitrothion
12. Chlordane-Cis + Trans
13. Dieldrin
14. o,p'-DDT
15. Beta-Endosulfan
16. p,p'-DDT
17. /
18. Tetradifon

Pesticides mix on  
MEGA-1701 FAST column  
4.5 min analysis time only

Courtesy of University of Torino - Prof. C. Bicchi et al.

CUSTOM  
DEDICATED  
COLUMNS

*cis/trans* FAMES isomers  
on MEGA-10 column



- Peaks legend:
- █ Linalool
  - █ Linalyl Acetate
  - █ Linalyl Propionate

dex xeb  
chiral columns

Linalool - Linalyl Acetate  
enantiomeric separation  
on MEGA-DEX DET Beta  
chiral column

Courtesy of University of Torino - Prof. C. Bicchi et al.

\*: [click here to visit our applications webpage to discover more than 100 application notes. New technical notes are constantly added!](#)

## PRESS-FIT connectors

- easy to handle

- a simple pressure to  
assure a perfect seal

- easy to install

**MEGA Press-Fit connectors** allow you to simply connect, with a tight seal, different columns or Retention Gaps together in many ways. Our Press-Fit connectors are custom-made to fit any tubing size and to ensure the minimal dead volume. Visit our website to download the free guide "Press-Fit Connectors Tips" and discover how easy is to use our Press-Fit connectors.

**Press-Fit Union** linear connectors, ideal to connect two columns or a Retention Gap to the analytical column.

**Press-Fit "Y"** three ways connectors, ideal to connect two analytical columns to a single injector port or split the exit of one column to a dual detector GC system. Many other configurations are possible using MEGA "Y" Press-Fit.

MEGA produces also personalized **Multiways Press-Fit connectors** for advanced analytical system configurations as MDGC and other custom settings.



## general purpose RETENTION GAPs

- easy to handle

- exceptional inertness

- easy to install

**Retention Gaps deactivated for any purpose:** our Retention Gaps are suitable for any analytical needs (use with polar solvents, apolar solvents and for general use) and available in any internal diameter size (0.05, 0.075, 0.10, 0.15, 0.18, 0.20, 0.25, 0.32, 0.45, and 0.53mm I.D.). Any length is available, also in pre-cut pieces individually packaged and ready to use.

MEGA Retention Gaps have an unsurpassed chemical inertness. Use our Retention Gaps for focusing the sample components when introducing a large (liquid) sample directly into the column and/or to protect the analytical column from contamination. Retention Gaps are also useful as connecting pipes to various part of systems with different configurations.

Discover also our **MEGA-GAP columns line with integrated built-in Retention Gap.** No connections needed. Visit our website or contact us for more information.

**MEGA GAP**  
integrated built - in retention gap