

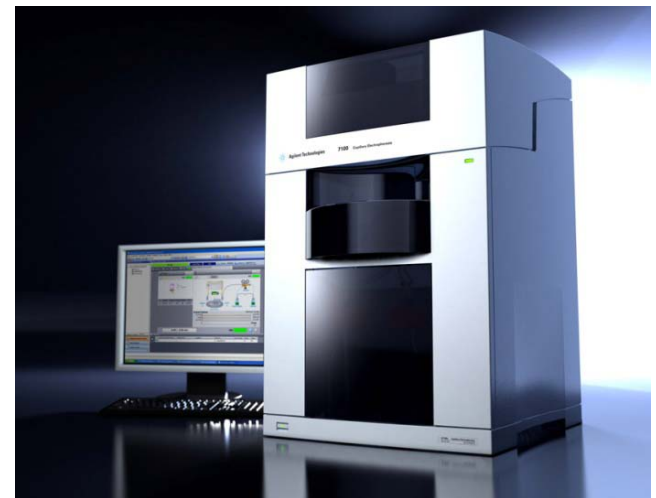
Agilent Technologies

Capillary Electrophoresis

e-Seminar

Upgrade from 1600 HP^{3D}CE to 7100 CE

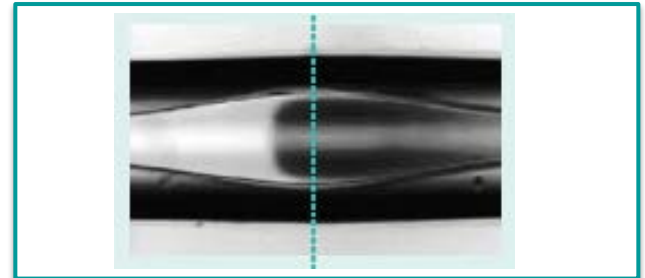
January 2011



Capillary Electrophoresis at Agilent

Former G1600
„HP^{3D}CE -system“

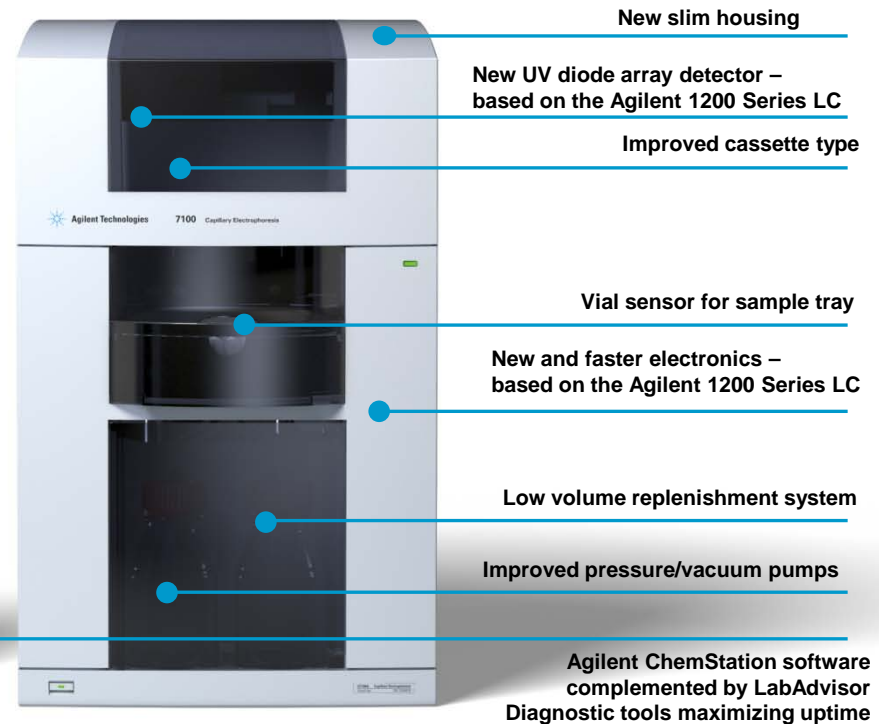
- Introduced February 1993 this model built the basis of our experience in CE as one of Agilent's core technologies
- Agilent pioneered the proprietary bubble cell capillaries & high sensitivity cell providing highest CE sensitivity levels in UV detection



Agilent 7100 CE

introduced in May 2009

- Sensitivity and handling
- Backward-compatible
- Fully flexible on detectors (DAD-UV, MS, LIF, CCD,..)
- Agilent Replenishment-system
- Agilent ChemStation control and data analysis



Features & updates

1600 vs. 7100 CE



- Minimized: Footprint
- Maximized: Sensitivity
- Maximized: Flexibility



Feature	HP/Agilent 3D CE system	What you get with the Agilent 7100 Capillary Electrophoresis system	
Instrument size and weight	Standard benchtop system.	New: 25% less footprint New: 30% reduced weight	More lab space!
Sample tray	For tight closing vials. 50 positions, 48 usable.	New: Vial sensor to check loading, avoid misplacements and reduced sample re-runs.	Highest productivity!
Replenishment system	For throughput and extended use of sample tray.	New: Support of 100 ml buffer bottles. New: Reduced buffer consumption and improved volume sensing.	Faster analysis and reduced reagent costs!
Autosampler	Fix mounted inside instrument.	New: Slide-out module for easy cleaning/maintenance.	Highest uptime!
Pressure-vacuum system	External source for max. 12 bar. For up to 50 mbar fine-pressure and vacuum.	New: Up to 100 mbar fine-pressure and vacuum. New: On demand pumping for less system noise and longer pump lifetime.	Highest uptime!
Diagnostics	ChemStation based.	New: Agilent LabAdvisor software for 24/7 real time monitoring and fast instrument diagnostics.	Highest uptime!
UV diode array detector	Standard with instrument.	New: Use of leading Agilent 1200 DAD technology. New: Reduced noise for better S/N and a wide linear dynamic range for quantification.	Highest UV sensitivity of all CE platforms!
Capillary thermostating	Compact cassette. Peltier thermostating	New: Sliding cassette with magnetic lock for easy capillary and vial handling. New: Improved air-thermostating for effective heat dissipation.	Shortest possible time for switching between methods and capillaries!
Electronics	Maximal 10 Hz data rate	New: Up to 40 Hz data rate, based on Agilent LC technology, for more UV data points/peak.	Improved quantitation reproducibility!
Software	Agilent CE ChemStation	New: Agilent CE ChemStation version B.04.02.	Easy to use and learn Agilent LC-like software!
External detector signals	Analog out signal available. Requires separate A/D-box and electronic board.	New: Analog in and out signal available. New: A/D-box onboard. Direct connection to external detectors.	Widest range of detectors through plug andplay connectivity!
CE-MS capabilities	Coupling to all ESI-MS systems. Robust sheath-flow plug+spray. ChemStation control for the Agilent MS portfolio.	New: Prepared for upcoming Agilent MassHunter control.	Only company offering one stop shopping for CE-MS!



Agilent 7100 Capillary Electrophoresis System

Main improvements & benefits

New 1200 series UV-DAD and electronics

- Less noise, better Signal/Noise, best sensitivity
- Linear dynamic range of 1×10^4
- Up to 40 Hz data rate for high resolution peaks



New design for easy usage and maintenance

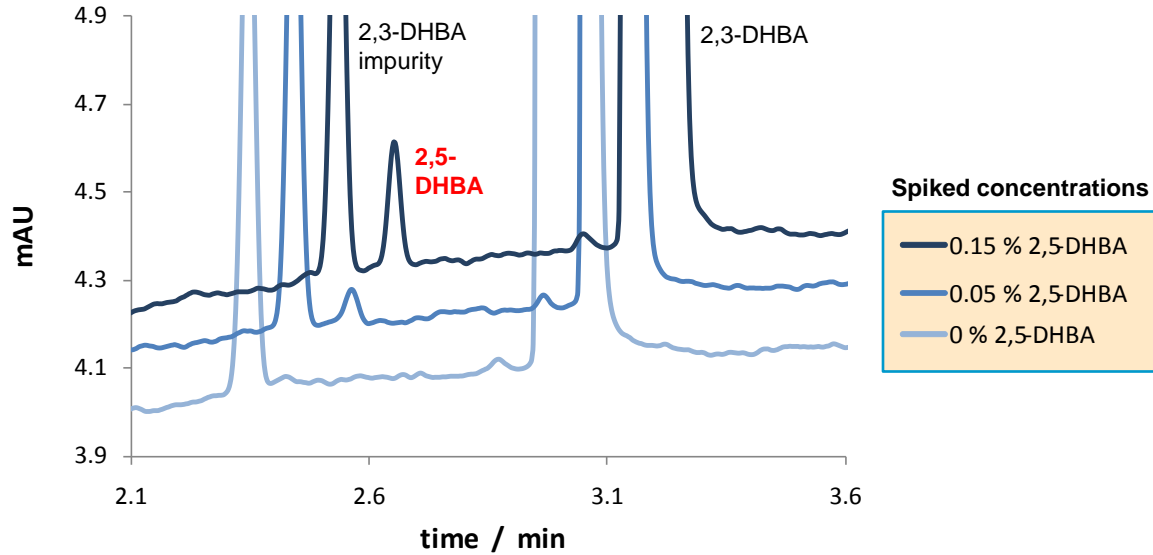
- 25% less bench space required
- Slide out sampler module for easy access
- Vial detection by extra sensor in sample tray
- Long life lamp (2x lifetime) easy to change

Performance

7100 CE

Better sensitivity due to new
1200 DAD-UV

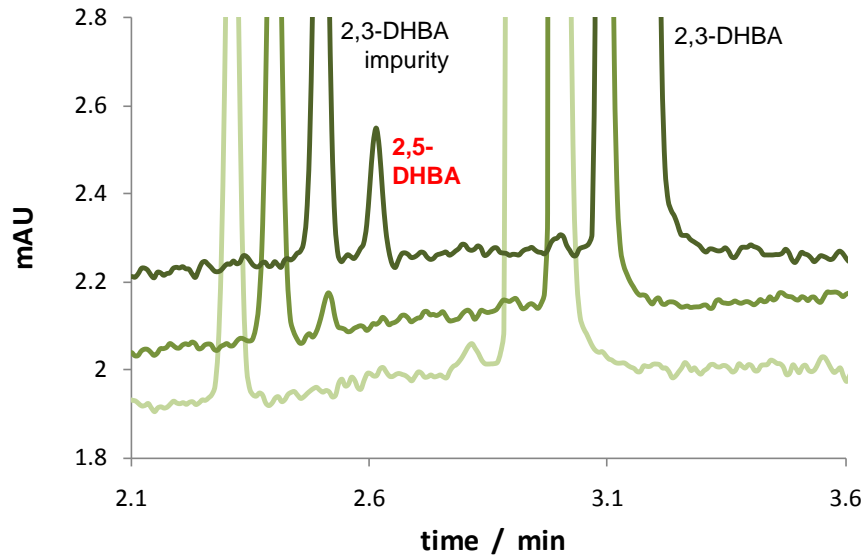
Less noise, improved S/N



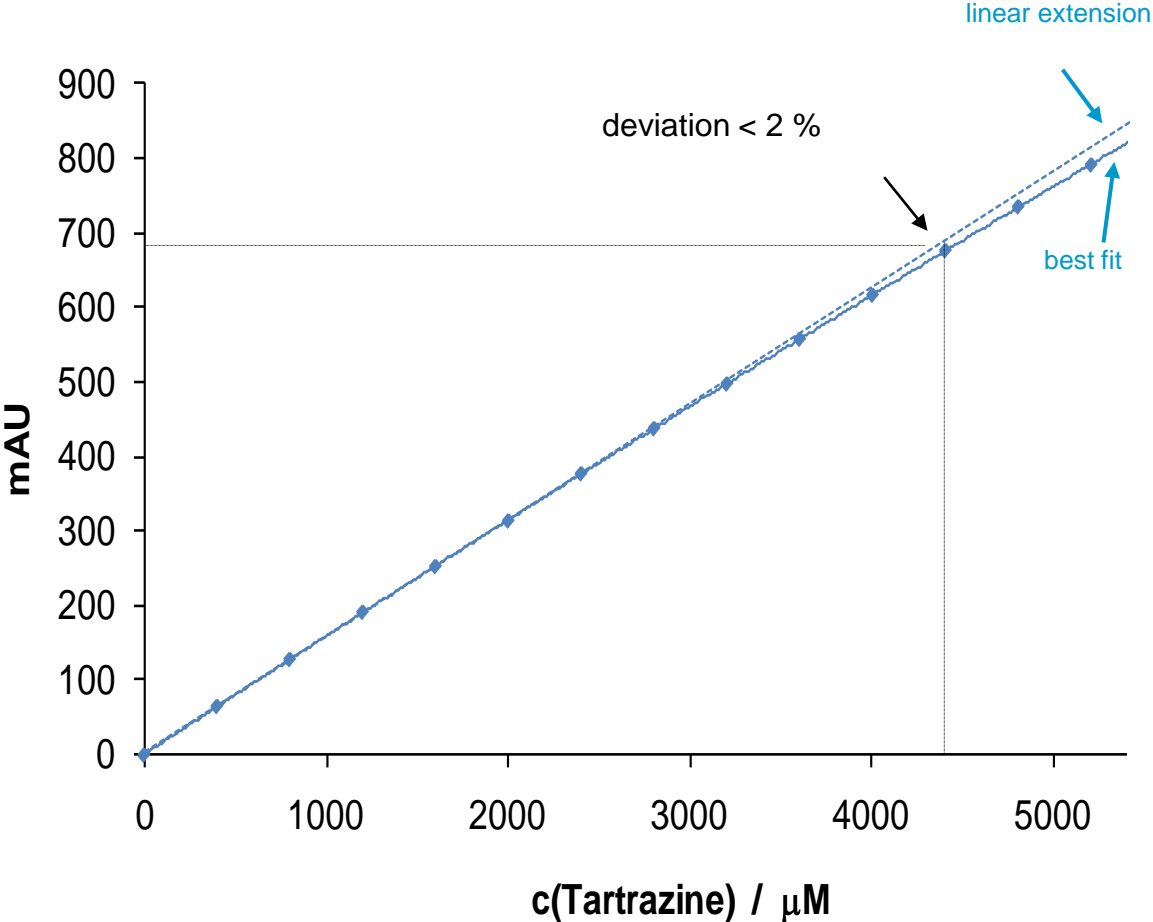
1600 CE

Reproducible results, with
backward compatible methods

Comparable mt and resolutions



Linearity of the 7100



Determination of the linear detection range on a 7100 instrument encompassing 4 orders of magnitudes

Agilent 7100 Capillary Electrophoresis System

External Detectors

Agilent's CE-MS systems provide

- Single vendor solution: CE + Interface + MS
- Full portfolio, MSD, Triple-Quad, ToF, Q-ToF
- Most robust and reliable ESI-Interface for CE
- Capillary exit on ground – no compromises!

Proven compatibility with Agilent 7100 systems:

- Picometrics (LIF)
- ISTech (CCD)
- eDAQ (CCD)
- Paraytech (UV-Imaging)

Wide choice on non-Agilent detectors

- Integrated A/D converter plus Analog in/out
- LIF detection solutions by Picometrics
- External signals within ChemStation SW
- CCD detection for direct ion detection



Agilent CE-ESI-MS Setup

On a single PC run:

- MassHunter
- CE-ChemStation / Open Lab CDS

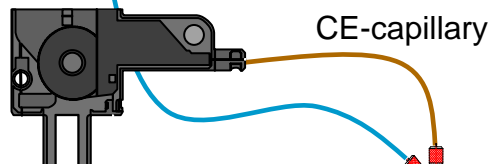


PC-system controlling

- 7100 CE
- MS systems
- Sheath liquid pump



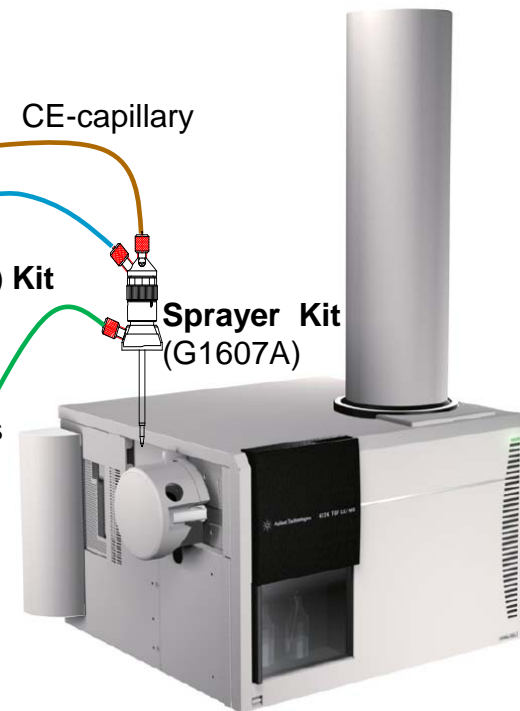
Sheath Liquid Pump



**Adapter (interface) Kit
(G1603A)**

Nitrogen
nebulizing gas

**Sprayer Kit
(G1607A)**



The Agilent CE-MS Advantage

- Single vendor solution: → direct and competent support
- Sheath Liquid Interface: → robust and reliable, offering efficient control on chemistry
- Capillary outlet on ground: → no compromises on voltages for CE or ESI-MS

Summary: Agilent 7100 CE

We offer:

- **Most sensitive CE on market**
best in class UV-DAD detection comes standard
- **Seamless connection to external detectors**
MS, LIF, CCD, UV-imaging, ...
- **Only single vendor CE-MS solutions**
complete Agilent CE-MS portfolio
- **25% reduced instrument footprint**
less space required, easy to move & connect
- **Only vendor offering replenishment system**
automated and reproducible throughput
- **ChemStation / OpenLab CDS software**
known from Agilent LC + intuitive graphical UI

You get:

- **Detect more and quantify more robust**
- **Flexibility for new or different tasks**
- **More information and reliable compound ID**
- **Efficiency and flexibility in lab usage**
- **Fresh buffers any time for best reproducibility**
- **No surprises, no extra trainings required**

More information at www.agilent.com/chem/ce

Further information materials



Information Tools:

- Brochure 5990-3963EN
- Data Sheet 5990-3962EN
- CE Partner CD-ROM 5990-3980EN
- CE Primer tutorial 5990-3777EN
- Consumables and supplies catalog 5990-3822EN
- Ion Analysis Application Compendium 5990-5244EN

More information at www.agilent.com/chem/ce