

Synthra MeI (MeOTf) (Catalog No. 005)

Synthra MeI is a flexible and completely automated radiosynthesizer for the efficient production of [^{11}C]methyl iodide and [^{11}C]methyl triflate. Automating the synthesis is simple with the easy-to-use configuration software SynthraView. The Synthra MeI module offers both, fully automatic and manual modes of operation.

Gas Phase Capabilities

- ✓ High specific activities are achieved from in-target produced [^{11}C]CO₂ ranging from 10 Ci/ μmol to 24 Ci/ μmol .*

The target [^{11}C]CO₂ is quantitatively trapped in the stainless steel capillary tubing at -180 °C. After washing out any impurities, the CO₂ is released into the methane oven where it is converted to [^{11}C]CH₄ by reduction on a Ni catalyst. Subsequently, the [^{11}C]methane is released and trapped at -120 °C on a Carboxen® CH₄ trap and unreacted hydrogen is removed from the system. In a successive gas phase reaction the [^{11}C]CH₄ is converted into [^{11}C]MeI and trapped on a Porapak Q filled column.

[^{11}C]Labeling Possibilities

- ✓ **[^{11}C]Methyl iodide Production:** [^{11}C]MeI is ready to be released after 7 minutes starting from the [^{11}C]CO₂ trapping. The yield for the [^{11}C]MeI formation is better than 50% (ndc).
 - Up to 15 sequential methyl iodide preparations are possible from a single box set-up.
- ✓ **Methyl triflate Production:** The [^{11}C]MeI can be converted to [^{11}C]MeOTf by passing through a silver triflate filled column at 180 °C. The conversion yield from methyl iodide is 95%.

Additional Gas Phase Options

- ➔ **Methane Option:** A reduced gas phase suitable for the use of CH₄ Target.
- ➔ **[^{11}C]HCN (Catalog No. 003HCN):** The [^{11}C]CH₄ is released with NH₃ gas into a high temperature area where it undergoes a Pt-catalyzed conversion into [^{11}C]HCN at 950 °C.



General Features

- ✓ **Heating and Cooling Capabilities**
 - 7 heating zones
 - 4 with cooling capabilities
 - Temperature range: -196 °C – 1000 °C
- ✓ **Detectors and Controllers**
 - 3 shielded radiation detectors
 - 3 electronic flow controllers (HCN option: 4 flow controller)
 - 1 pressure sensor as leak detector
- ✓ **Chemically inert valves** with small dead volume < 35 μL , 5 bar rated

Synthesis Features

- ✓ **Triflate/Column oven** (RT – 200 °C)

Synthra C-11 Family

Product Description and Technical Specifications

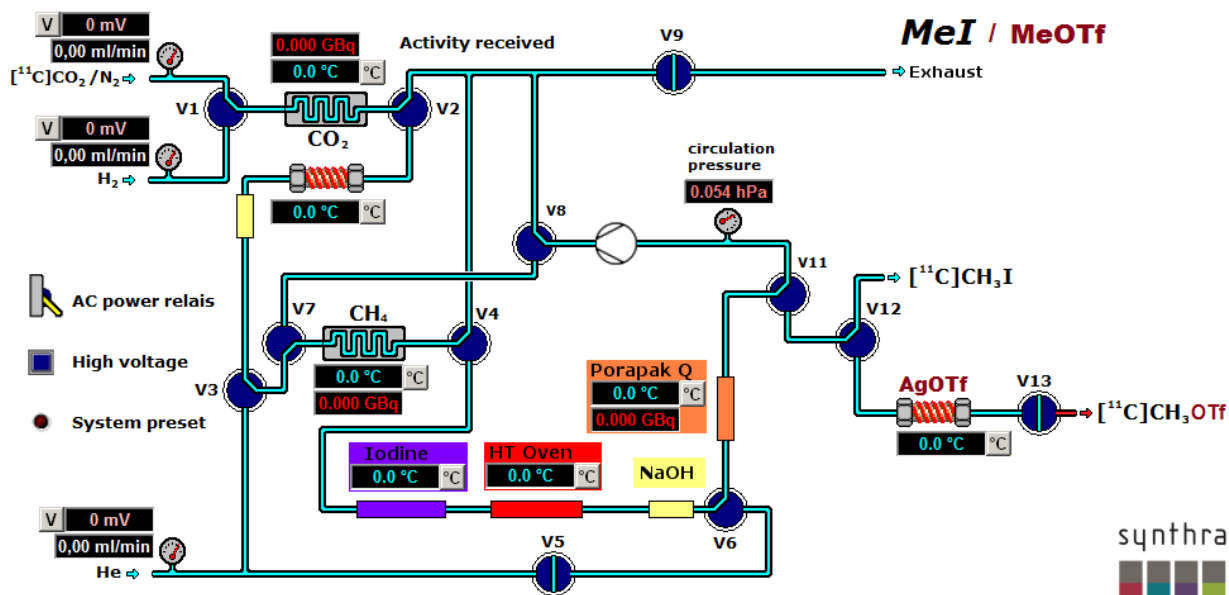


GMP Features

- ✓ Synthesis files for $[^{11}\text{C}]\text{MeI}$ and MeOTf
- ✓ **GMP compliant.** Electronic control and data collection (27/18 channels)
- ✓ **21CFRpart11 & LIMS** compatible

Terminal Control

- ✓ **A Laptop (Win 10 Pro) and SynthraView are included**



The Graphical User Interface (GUI) of the SynthraView software