Synthra C11 Acetate (Catalog No. 011)

The Synthra C11 Acetate module is a completely automated radiosynthesizer for the efficient production of [^{11}C]acetate. The SynthraView software offers both, fully automatic as well as manual modes of operation of the Synthra C11 Acetate module.

Gas Phase Capabilities

✓ High specific activities are achieved from in-target produced [^{11}C]CO_2 ranging from 1 Ci/μmol to 10 Ci/μmol depending on gas purity.

The [^{11}C]CO_2 produced in target is quantitatively trapped in the stainless steel capillary tubing at -180 °C. Afterwards, it is transferred into the reaction loop oven containing CH_3MgBr or CH_3MgCl with a helium flow. [^{11}C]acetate is generated by carboxylation of these Grignard reagents in the loop oven, successively hydrolyzed and purified by SPE cartridges.
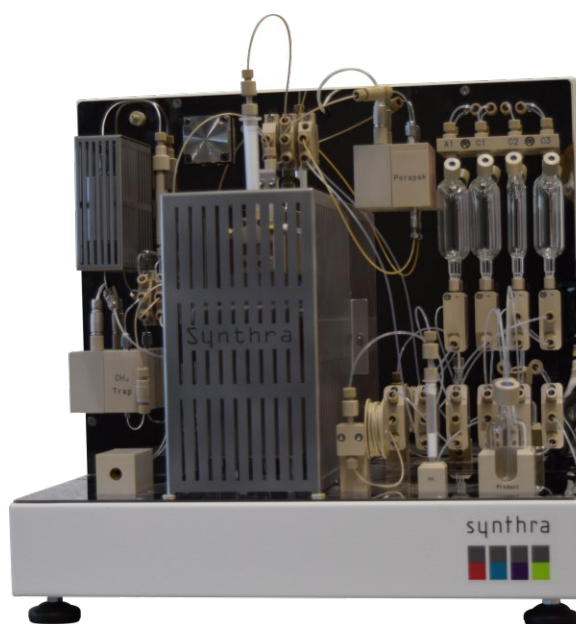
[^{11}C]Labeling Possibilities

✓ **[^{11}C]Acetate production:** [^{11}C]Acetate is ready for release after only 12 min starting from trapping the [^{11}C]CO_2. The yield is better than 50 %.

General Features

✓ **Heating and cooling capabilities**

- Two heating zones with cooling capabilities

- Temperature range: -196 °C – 950 °C

✓ **Detectors and controllers**

- Four shielded radiation detectors

- Two electronic flow controllers

✓ **Chemically inert valves** with small dead volume < 35 μL, 5 bar rated

✓ **Dimensions** (w x d x h): 42 × 55 × 41 cm

✓ **Weight**: approx. 25 kg

Synthesis Features

✓ **Four reagent vials**

- Two small (1 – 3 mL) and two large (10 – 15 mL) volume glass vials for reagents

✓ **Two cartridge holders**

✓ **SPE unit** for final product formulation

Additional Synthesis Options

➔ **Product solvent evaporator**
(Catalog No. 000pse)

GMP Features

✓ Synthesis file for [^{11}C]acetate

✓ **GMP compliant.** Electronic control and data collection (27/18 channels)
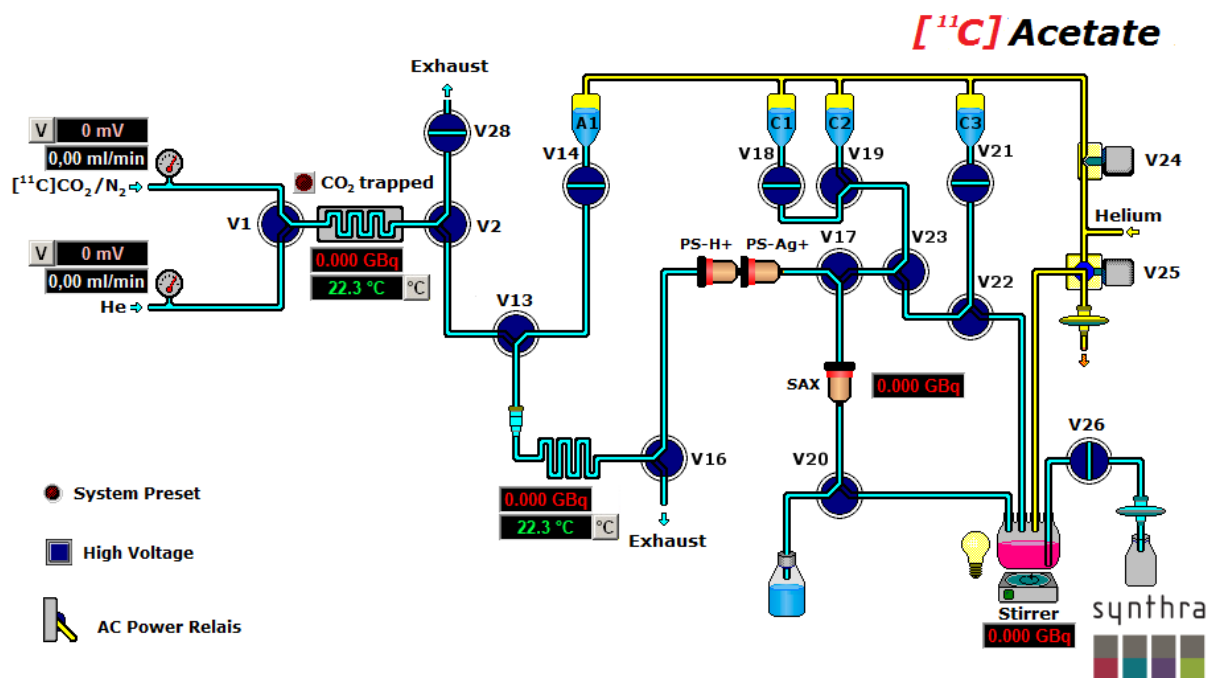
✓ **21CFRpart11** & **LIMS** compatible

Terminal Control

✓ A laptop (Win 10 Pro) with preinstalled controlling software SynthraView is included

✓ Four digital inputs for communication with external devices upon request

The Graphical User Interface (GUI) of the SynthraView software.