



## <sup>11</sup>C Methyl Iodide and Triflate Synthesis Module... **Mel - PLUS™**

Now there is a reliable way to produce [<sup>11</sup>C]-iodomethane (methyl iodide) or [<sup>11</sup>C]-methyl triflate for labeling PET tracers



- ◆ Reliable yields and specific activity
- ◆ Fully automated and simple to use
- ◆ Advanced software and built-in monitoring for full cGMP compliant data acquisition and reporting
- ◆ Easy integration with Bioscan's AutoLoop methylation system for a complete C-11 tracer production system
- ◆ Automatic cleaning and drying with no operator intervention required, so the next synthesis can be run in a matter of minutes
- ◆ System designed for 10 runs back-to-back each day
- ◆ Functions as a reliable trap and release system for C-11 CO<sub>2</sub> for other chemistries

## Modular Design

The MeI/MeOTf System consists of four modules configured to minimize the required active hot cell space. The Control Interface and Solvent Delivery Modules can be placed outside the hot cell since they never contain any radioactivity. The Main Module and the Waste Recovery Modules must be shielded. The Main Module itself requires less than 1.5 square feet of accessible hot cell space.



### ◆ Synthesis Method

The  $^{11}\text{C}$  MeI/MeOTf System uses the "wet chemistry" method from the standard literature. The  $^{11}\text{C}$ - $\text{CO}_2$  is delivered from the target, trapped on solid support, released and reduced to  $^{11}\text{C}$ - $\text{CH}_4$  using Lithium Aluminum Hydride (LAH) in THF. The  $^{11}\text{C}$ - $\text{CH}_3\text{O}$ - (methoxide) is then converted to  $^{11}\text{C}$ - $\text{CH}_3\text{I}$  using hydroiodic acid (HI) solution. The  $^{11}\text{C}$ - $\text{CH}_3\text{I}$  is then easily delivered to the AutoLoop module for methylation of the precursor. The system also is able to produce Me-OTf with the included reaction oven. The reagents are pre-loaded, one time, to allow for multiple runs.

### ◆ Program Control – PET Chem/Series III Software

The MeI/MeOTf System is controlled by the PET Chem/Series III software system: the same control system used in the Bioscan AutoLoop Methylation system. At each step, the computer screen shows the user what flow path is operating, what reagents are being used, and the radioactivity level measured at key points in the system.

The system includes an automatic cleaning cycle, which is run under program control at the end of each synthesis. The cleaning cycle requires less than 10 minutes to complete and has been shown to enable 10-15 back-to-back production runs throughout a single day.

The Bioscan MeI/MeOTf System has a number of significant advantages over "homemade" and other automated systems currently in use.

Bioscan, Inc.  
Washington, DC - USA  
Toll-free: 1-800-255-7226  
Phone: 1-202-338-0974  
Fax: 1-202-333-8514  
[sales@bioscan.com](mailto:sales@bioscan.com)

[www.bioscan.com](http://www.bioscan.com)

Bioscan Europe Ltd.  
Paris - France  
Phone: 33 684 611 551  
Fax: 33 383 636 267  
[europe@bioscan.com](mailto:europe@bioscan.com)