

The TracerLab Maximum (Mx) is also a Flexible (Fx) tool

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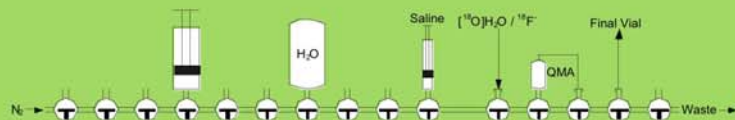
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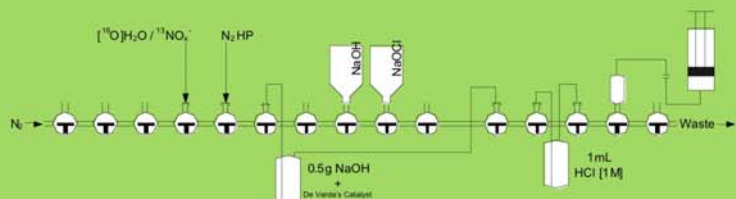
[¹⁸F]NaF

The target is unloaded through the QMA, which is dried with nitrogen, then rinsed with WFI using the left syringe driver. Finally, the [¹⁸F]NaF is eluted with 3mL of saline placed in the central syringe driver. The total time for the preparation is 9 minutes.

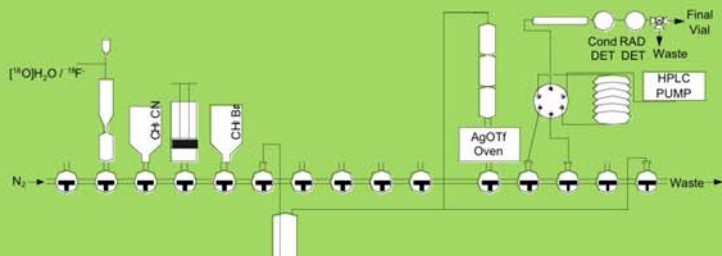


[¹³N]NH₃ and [¹³N]N₂

The target is unloaded in the reactor, which is pre-filled with the catalyst and NaOH. Once the reduction is completed the [¹³N]NH₃ reacts in the second vial, pre-filled with HCl. Adding NaOH and NaOCl, the production of [¹³N]N₂ starts, and the gas can flow into a syringe located in an ionization chamber. Once the activity is measured, the nitrogen high pressure is used to pop up the plunger and release the [¹³N]N₂. Accurate calibrations have been performed from 185 MBq to 11 GBq.



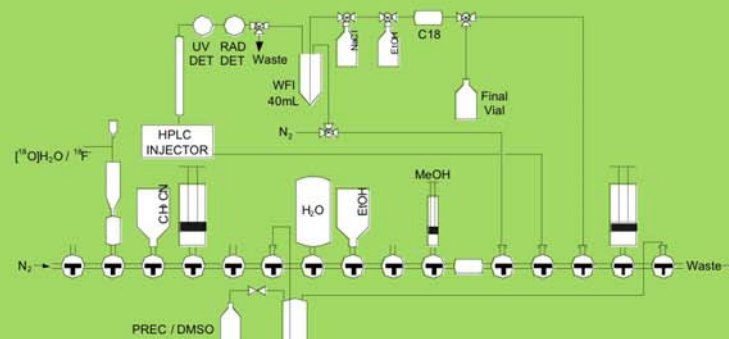
[¹⁸F]Fluorocholine



The best results for [¹⁸F]Fluorocholine syntheses are achieved when using the “loop” chemistry (uncorrected yield 26%). We are routinely using a “FDG like” system without the “loop” and HPLC (average uncorrected yield 20% in 32 minutes).

[¹⁸F]MPPF

Adding 7 valves to the 8 available 24V outlets on the TracerLab Mx and writing the new sequence, the synthesis of [¹⁸F]MPPF becomes fully automated. The sequence is simply “paused” during HPLC purification and “resumed” to collect the purified final product after reformulation. We recently performed 11 synthesis in 11 days, and the final product has been used to test the YAP-(S)PET camera with mice and rats. Deliveries were on time 100%, the average uncorrected yield was 15% (65 minutes synthesis).



Stainless steel manifold

After testing three different types of prototypes, the serial production of stainless steel manifold is now possible. The final system has been tested to run FDG syntheses with no difference in yield. Between runs, the manifolds are simply rinsed with acetonitrile and dried with nitrogen. Consecutive uncorrected yields higher than 55% have been obtained. Tests on chemistries using DMSO, DMF and other corrosive reagents are in progress.



[¹⁸F]FLT

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