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**Keywords :** Fluorine-18, Carbon-11, Labelling, Positron Emission Tomography, Radioligands

**Principal Investigators :**

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# Radiosynthesis of Positron Emission Tomography Ligands

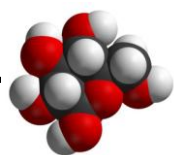
**Aim:** Fluorine-18 ( $T_{1/2}$  : 109.8 min) and carbon-11 ( $T_{1/2}$  : 20.38 min) labelling of molecules for molecular imaging with Positron Emission tomography.

**Method:** cyclotron, synthesizers, hotcells, nucleophilic [ $^{18}\text{F}$ ]fluorinations and [ $^{11}\text{C}$ ]methylations.

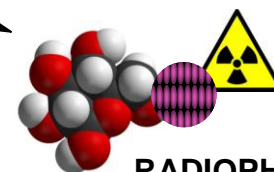
**Competitors:** Research-oriented PET centers (World-wide).

**Background:** A. Damont et al. *J. Heterocyclic Chem.* **2012**, in press.; D. Roeda et al. *J. Fluor. Chem.* **2012**, 134 (special issue), 107-114; B. Kuhnast et al. *Appl. Radiat. Isot.* **2012**, 70 (3), 489-497.

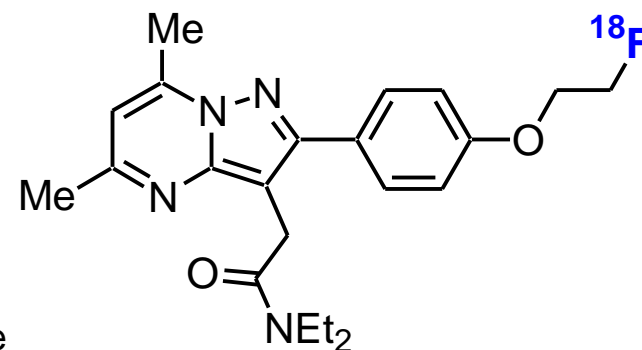
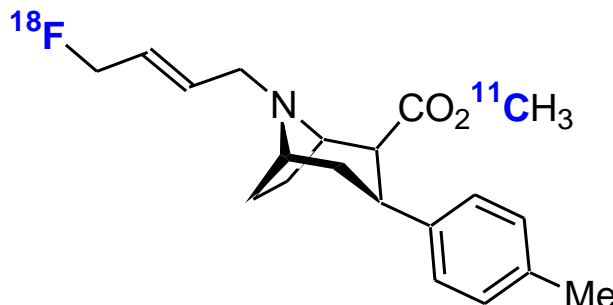
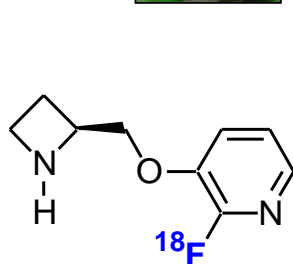
**CHEMISTRY**  
Structure design  
and synthesis



**RADIOCHEMISTRY**  
Synthesis of labelled compounds  
and radiopharmaceuticals



**CYCLOTRON**  
Isotope production



**RADIOPHARMACY**  
Radiopharmaceutical quality  
controls and batch validation