



AULA VIRTUAL de RADIOFARMACIA

Plataforma Virtual de Formación Continuada en Radiofarmacia

www.aulavirtualradiofarmacia.es

Lectura recomendada

New Methods and Techniques for F-18-labeled Radiopharmaceuticals

Huang Huafan, Liang Kun, Liu Yupeng, Huang Shitang, Chu Taiwei*

Beijing National Laboratory for Molecular Sciences, Radiochemistry and Radiation Chemistry Key Laboratory of Fundamental Science, College of Chemistry and Molecular Engineering, Peking University, Beijing 100871, China

[Progress in Chemistry](#), 2011, Vol. 23, Issue (7) : 1501-1506

Abstract:

The availability of radiopharmaceuticals is one prerequisite for positron emission tomography (PET) investigation. ^{18}F appears to be the best candidates among a number of positron emission nuclides. Nevertheless, the chemistry of fluorine limits ^{18}F labeling strategies, the preparation of many ^{18}F -labeling radiopharmaceuticals is still laborious and time-consuming. In this review, new ^{18}F -labeling methods and techniques are described in radiopharmaceutical chemistry, including detagging ^{18}F -labeled methodology, direct radiolabeling of peptides with FDG, Al^{18}F -chelated labeling, aqueous ^{18}F -labeling of boronic esters, microfluidics-based radiochemical synthesis technologies for PET probes and so on. This review will provide an overview in new ^{18}F -labeling methods and techniques for researchers.

Contents

- 1 Introduction
- 2 Detagging ^{18}F -labeling methodology
- 3 ^{18}F -labeling of peptides
 - 3.1 Direct radiolabeling of peptides with [^{18}F]FDG
 - 3.2 Al^{18}F -labeling of NOTA conjugated peptides
- 4 Aqueous ^{18}F -labeling of boronic esters
- 5 Microfluidics-based radiochemical synthesis technologies for PET probes
 - 5.1 FDG synthesis using microfluidic devices
 - 5.2 Other ^{18}F -labeled PET probes prepared by microfluidics
- 6 Conclusion and outlook



Colabora con Farmacéuticos Mundi (**FarmaMundi**) (<http://www.farmaceticosmundi.org/>)



FARMA
MUNDI
FARMACEUTICOS
MUNDI