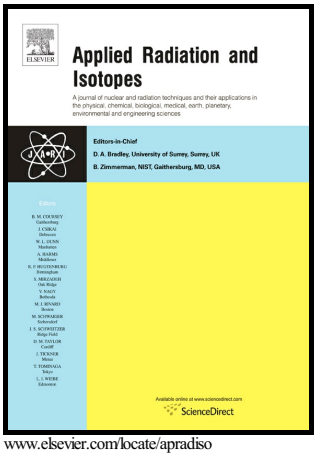
Automated radiosynthesis of Al[^{18}F]PSMA-11 for large scale routine use

K. Kersemans, K. De Man, J. Courtyn, T. Van Royen, S. Piron, L. Moerman, B. Brans, F. De Vos



www.elsevier.com/locate/apradiso

PII: S0969-8043(17)31134-X
DOI: https://doi.org/10.1016/j.apradiso.2018.01.006
Reference: ARI8214

To appear in: *Applied Radiation and Isotopes*

Received date: 27 September 2017
Revised date: 15 December 2017
Accepted date: 9 January 2018

Cite this article as: K. Kersemans, K. De Man, J. Courtyn, T. Van Royen, S. Piron, L. Moerman, B. Brans and F. De Vos, Automated radiosynthesis of Al[^{18}F]PSMA-11 for large scale routine use, *Applied Radiation and Isotopes,* https://doi.org/10.1016/j.apradiso.2018.01.006

Automated radiosynthesis of Al[^{18}F]PSMA-11 for large scale routine use

K. Kersemans[1], K. De Man[1], J. Courtyn[1], T. Van Royen[2], S. Piron[2], L. Moerman[1], B. Brans[1], F. De Vos[2]

[1]*Ghent University Hospital, Nuclear Medicine, De Pintelaan 185, Ghent, Belgium*

[2]*Laboratory of Radiopharmacy, Ottergemsesteenweg 460, Ghent University, Ghent, Belgium*

First author and responsible for correspondence:

Ken Kersemans

Ghent University Hospital; Nuclear Medicine; Cyclotron department

De Pintelaan 185

9000 Gent; Belgium

Tel: +32(0)9 3321557

Email: ken.kersemans@uzgent.be

Abstract

Objectives: We report a reproducible automated radiosynthesis for large scale batch production of clinical grade Al[^{18}F]PSMA-11. **Methods:** A SynthraFCHOL module was optimized to synthesize Al[^{18}F]PSMA-11 by Al[^{18}F]-chelation. **Results:** Al[^{18}F]PSMA-11 was synthesized within 35 minutes in a yield of 21 +/- 3 % (24.0 +/- 6.0 GBq) and a radiochemical purity > 95%. Batches were stable for 4 hours and conform the European Pharmacopeia