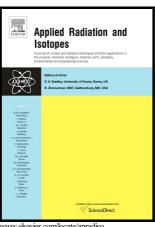
Author's Accepted Manuscript

Imaging and analysis of thin structures using positron emission tomography: thin phantoms and in vivo tobacco leaves study

Denisa Partelová, Miroslav Horník, Juraj Lesný, Pavol Rajec, Peter Kováč, Stanislav Hostin



S0969-8043(16)30193-2 PII:

http://dx.doi.org/10.1016/j.apradiso.2016.05.020 DOI:

Reference: **ARI7495**

To appear in: Applied Radiation and Isotopes

Received date: 18 February 2016 Revised date: 27 April 2016 Accepted date: 17 May 2016

Cite this article as: Denisa Partelová, Miroslav Horník, Juraj Lesný, Pavol Rajec Peter Kováč and Stanislav Hostin, Imaging and analysis of thin structures using positron emission tomography: thin phantoms and in vivo tobacco leaves study Radiation **Applied** and *Isotopes* http://dx.doi.org/10.1016/j.apradiso.2016.05.020

This is a PDF file of an unedited manuscript that has been accepted fo publication. As a service to our customers we are providing this early version o the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting galley proof before it is published in its final citable form Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain

ACCEPTED MANUSCRIPT

Imaging and analysis of thin structures using positron emission tomography: thin phantoms and *in vivo* tobacco leaves study

Denisa Partelová^{a1}, Miroslav Horník^{a,*}, Juraj Lesný^{a,1}, Pavol Rajec^{b2}, Peter Kováč^{b,2}, Stanislav Hostin^{a3}

^aDepartment of Ecochemistry and Radioecology, Faculty of Natural Sciences, University of Ss. Cyril and Methodius in Trnava, Nám. J. Herdu 2, SK-917 01 Trnava, Slovak Republic ^bBIONT Inc., Karloveská 63, SK-842 29 Bratislava, Slovak Republic

d.partelova@gmail.com

hornik@ucm.sk

lesny@ucm.sk

rajec@biont.sk

kovac@biont.sk

hostin@ucm.sk

*Correspondence to: Miroslav Horník, Department of Ecochemistry and Radioecology, Faculty of Natural Sciences, University of Ss. Cyril and Methodius in Trnava, Nám. J. Herdu 2, SK-917 01 Trnava, Slovak Republic. *Tel.* +421 33 55 65 392; Fax: +421 33 55 65 303

Abstract

In this work, a novel approach utilizing the designed phantoms imitating the plant tissues was applied for the evaluation of the relationships between the parameters of the prepared phantoms and/or quantitative variables obtained within the PET analysis. The microPET system developed for animal objects and approaches used made it possible to obtain the quantitative data in the form of 18 F radioactivity as well as the glucose (in μ g) accumulated in leaf tissues within the dynamic *in vivo* study.

Keywords: PET; 2-[¹⁸F]FDG; leaf; uptake; solute transport; dynamic; 2D/3D imaging; phantom; principal component analysis

INTRODUCTION

¹ Tel. +421 33 55 65 392; Fax: +421 33 55 65 303

² Tel. +421 02 20 670 749; Fax: +421 02 20 670 748

³ Tel. +421 33 55 65 334; Fax: +421 33 55 65 303

Download English Version:

https://daneshyari.com/en/article/8209005

Download Persian Version:

https://daneshyari.com/article/8209005

<u>Daneshyari.com</u>