

- 1 Kihlberg T. & Långström B. Method and apparatus for production and use of [¹¹C]carbon monoxide in labeling synthesis. *PCT Int. Appl.* (2002) WO 2002/102711.
- 2 Chin F.T., Morse C.L., Shetty H.U. & Pike V.W. Automated radiosynthesis of [¹⁸F]SPA-RQ for imaging human brain NK₁ receptors with PET. *J. Label. Compd. Radiopharm.* (2006) 49, 17-31.
- 3 Wilson A.A., Garcia A., Jin L & Houle S. Radiotracer synthesis from [¹¹C]iodomethane: A remarkably simple captive solvent method. *Nucl. Med. Biol.* (2000) 27, 529-532.
- 4 Chin F.T., Musachio J.L., Cai L. & Pike V.W. Syntheses and application of three ¹⁸F-fluoroalkylating agents in a commercial automated radiosynthesis apparatus. *J. Label. Compd. Radiopharm.* (2003) 46 (Suppl. 1), S172.
- 5 McCarron J.A. & Pike V.W. Synthesis of no-carrier-added [¹¹C]methanesulphonyl chloride as a new labeling agent for PET radiopharmaceutical development. *J. Label. Compd. Radiopharm.* (2003) 46, 1127-1140.
- 6 Musachio J.L., Shah J. & Pike V.W. Radiosyntheses and reactivities of novel [¹⁸F]2-fluoroethyl arylsulfonates. *J. Label. Compd. Radiopharm.* (2005) 48, 735-747.
- 7 Briard E. & Pike V.W. Substitution-reduction – an alternative process for the no-carrier-added [¹⁸F]N-(2-fluoroethyl)ation of anilines. *J. Label. Compd. Radiopharm.* (2004) 47, 217-232.
- 8 Briard E., Shah J., Musachio J.L., Zoghbi S.S., Fujita M., Imaizumi M., Cropley V., Innis R.B. & Pike V.W. Synthesis and evaluation of a new ¹⁸F-labeled ligand for PET imaging of brain peripheral benzodiazepine receptors. *J. Label. Compd. Radiopharm.* (2005) 48 (Suppl. 1), S4.
- 9 Morse C., Chin F.T. & Pike V.W. Effect of trace water on the preparation of [¹⁸F]fluoromethyl bromide. In preparation.
- 10 Schou M., Halldin C. & Pike V.W. Single-step preparation of [¹⁸F]fluoromethyl aryl ethers In preparation.
- 11 Schou M., Halldin C. & **Pike V.W.** Single-step preparation of [¹⁸F]fluoromethyl aryl sulfides. In preparation.
- 12 Constantinou M., Shah F. & Pike V.W. Radiofluoridation of *m*-substituted nitrobenzenes. *J. Label. Compd. Radiopharm.* (2001) 44 (Suppl. 1), S889-S891.
- 13 Lazarova, N., Musachio J.L., Pike V.W. Studies of radiofluoridation in *m*-substituted benzenes. In preparation.
- 14 Hamill T.G., Krause S., Ryan C., Bonnefous C., Govek S., Seiders T.J., Cosford N.D.P., Roppe J., Kamenecka T., Patel S., Gibson R.E., Sanabria S., Riffel K., Eng W., King C., Yang X., Green M.D., O'Malley S.S., Hargreaves R. & Burns H.D. Synthesis, characterization, and first successful monkey imaging studies of metabotropic glutamate receptor subtype 5 (mGluR5) PET radiotracers. *Synapse* (2005) 56, 205-216.
- 15 Simeon F.G. & Pike V.W. Radiosyntheses of [¹⁸F]2-fluoro-1,3-thiazoles. *J. Label. Compd. Radiopharm.* (2005) 48 (Suppl. 1), S158.
- 16 Pike V.W. & Aigbirhio F.I. Reactions of cyclotron-produced [¹⁸F]fluoride with diaryliodonium salts — a novel single-step route to no-carrier-added [¹⁸F]fluoroarenes. *J. Chem. Soc., Chem. Commun.* (1995) 2215-2216.
- 17 Pike V.W., Butt F., Shah A. & Widdowson D.A. Facile synthesis of substituted diaryliodonium tosylates by treatment of aryltributylstannanes with Koser's reagent. *J. Chem. Soc., Perkin Trans. 1* (1999) 245-248.
- 18 Carroll M.A., **Pike V.W.** & Widdowson D.A. New synthesis of diaryliodonium sulfonates from arylboronic acids. *Tetrahedron Lett.* (2000) 41, 5393-5396.
- 19 Martin-Santamaria S., Carroll M.A., Carroll C.M., Carter C.D., Pike V.W., Rzepa H.S. & Widdowson D.A. Fluoridation of heteroaromatic iodonium salts — experimental evidence supporting theoretical prediction of the process. *J. Chem. Soc., Chem. Commun.* (2000) 649-650.
- 20 Carroll M., Martin-Santamaria S., Pike V.W., Rzepa H.S. & Widdowson D.A. An *ab initio* and MNDO-*d* SCF-MO computational study of stereoelectronic control in extrusion reactions of R₂I-F intermediates. *J. Chem. Soc., Perkin Trans. 2* (1999) 2707-2714.
- 21 Martin-Santamaria M., Carroll M.A., Pike V.W., Rzepa H.S. & Widdowson D.A. An *ab initio* and MNDO-*d* SCF-MPO computational study of extrusion reactions of R₂I-F iodine(III) via dimeric, trimeric and tetrameric transition states. *J. Chem. Soc., Perkin Trans. 2* (2000) 2158-2161.
- 22 Carroll M., Widdowson D.A. & Pike V.W. Fluorination of electron-rich aromatic systems. *WO 2005/021472.*
- 23 Ermert J., Hocke C., Ludwig T., Gail R. & Coenen H.H. Comparison of pathways to the versatile synthon of no-carrier-added 1-bromo-4-[¹⁸F]fluorobenzene. *J. Label. Compd. Radiopharm.* (2004) 47, 429-441.

- 24 Ross T., Ermert J. & Coenen H.H. N.C.A. ^{18}F -fluorination of various arenes via aryl (2-thienyl)iodonium salts. *J. Label. Compd. Radiopharm.* (2005) 48 (Suppl. 1), S153.
- 25 Robins E.G., Brady F. & Luthra S.K. Hypervalent iodine reagents as precursors for radiolabeling pyrimidines using N.C.A. [^{18}F]fluoride. *J. Label. Compd. Radiopharm.* (2005) 48 (Suppl. 1), S145.
- 26 Conway L.K., Manning C.O., Lawrie K.W., Plisson C., Gee A.D. & Passchier J. Iodonium chemistry: scope and selectivity in aromatic nucleophilic labeling reactions. *J. Label. Compd. Radiopharm.* (2005) 48 (Suppl. 1), S193.
- 27 Wadsworth H.J., Widdowson D.A., Wilson E. & Carroll M.A. Radical trap in fluoridation of iodonium salts. *WO 2005/061415; PCT/GB2004/005304*.
- 28 Wadsworth H.J. & Devenish T. Fluoridation method. *WO 2005/097713; PCT/GB 2005/001344*.
- 29 Carroll M.A., Pike V.W., Rzepa H.S., Widdowson D.A. & Whittemore N. The structure of diphenyliodonium fluoride. In preparation.
- 30 Carroll M.A., Carroll C.M., Carter C.D., Martín-Santamaría S., Pike V.W., Rzepa H.S. & Widdowson D.A. The preparation of diaryliodonium salts from arylstannanes. In preparation.
- 31 Carroll M.A., Gibson A., Pike V.W., Widdowson D.A. & Woodcraft J. The preparation of diaryliodonium salts from arylboronic acids. In preparation.
- 32 Carroll M.A., Pike V.W., Rzepa H.S. & Widdowson D.A. Reversal of the ‘ortho effect’ in the fluoridation of diaryliodonium salts. In preparation.
- 33 Carroll M.A., Pike V.W. & Widdowson D.A. The effect of amine protection on the formation and fluoridation of *m*-tyramine derived iodonium salts. In preparation.
- 34 Carroll M.A., Jiang S., Nairne J., **Pike V.W.**, Smith G. & Widdowson D.A. The preparation of 6-fluoro-*m*-tyrosine from an iodonium salt precursor. In preparation.
- 35 Carroll M.A., Jiang S., Kamara L.M., Nairne J., **Pike V.W.** & Widdowson D.A. The preparation of 6-fluorodopamine from an iodonium salt precursor. In preparation.
- 36 Carroll M.A., Kamara L.M., **Pike V.W.** & Widdowson D.A. The effect of protecting groups on the direct synthesis of catechol-derived diaryliodonium salts. In preparation.
- 37 Pike V.W., Lu S.Y., Hong J., Musachio J.L. & McCarron J.A. Alternative methods for making [^{11}C]amides – application to the preparation of 5-HT_{1A} receptor radiotracers. Accepted for publication by the IAEA (*Meeting proceedings*).
- 38 Lu S.Y., Hong J. & Pike V.W. Synthesis of NCA [carbonyl- ^{11}C]amides by direct reaction of *in situ* generated [^{11}C]carboxylic acids with amines under microwave-enhanced conditions. *J. Label. Compd. Radiopharm.* (2003) 46, 1249-1259.
- 39 Lu S.Y., Hong J., Musachio J.L., Chin F.T., Vermeulen E.S., Wikstrom H.V. & Pike V.W. Alternative methods for labeling the 5-HT_{1A} receptor agonist, 1-[2-(4-fluorobenzoylamino)ethyl]-4-(7-methoxynaphthalyl)piperazine (S14506), with carbon-11 or fluorine-18. *J. Label. Compd. Radiopharm* (2005) 48, 971-981.
- 40 Schou M., Pike V.W., Varrone A., Gulyas B., Farde L. & Halldin C. Synthesis, radiolabelling and PET evaluation of (*R*)-[^{11}C]thionisoxetine, a candidate radiotracer for imaging brain norepinephrine transporters. Submitted to *Bioorg. Med. Chem.*
- 41 Fowler J.S. & Wolf A.P. Working against time: rapid radiotracer synthesis and imaging the human brain. *Acc. Chem. Res.* (1997) 30, 181-188.
- 42 Lu S.Y., Chin F.T., McCarron J.A., Jones J.R. & Pike V.W. Recent advances in the development of microwave-enhanced radiolabeling procedures. *Synthesis and Application of Isotopically Labelled Compounds*, Vol. 8, Dean D.C., Filer C.N. & McCarthy K.E. (Eds.), John Wiley & Sons, Chichester (U.K.) (2004) 67-70.
- 43 Jones J.R. & Lu S.Y. Microwave-enhanced radiochemistry, in *Microwaves in Organic Chemistry*; Loupy A. (Ed.), Wiley-VCH, Weinheim. (2006), p820-859.
- 44 Lu S.-Y., McCarron J.A., Hong J.S., Musachio J.L. & Pike V.W. Synthesis of NCA [carbonyl- ^{11}C]-labeled amides using a polymer-supported carbodiimide under microwave conditions. *J. Label. Compd. Radiopharm.* (2003) 46 (Suppl. 1), S229.
- 45 Lu S.Y., Chin F.T., McCarron J.A. & Pike V.W. Efficient *O*- and *N*-(β -fluoroethyl)ation)s with NCA [^{18}F] β -fluoroethyl tosylate under microwave-enhanced conditions. *J. Label. Compd. Radiopharm.* (2004) 47, 289-297. (Highlighted in *Accelerator*: the CEM Life Sciences Newsletter - June 2004).
- 46 Cai L., Cuevas J., Peng, Y.Y. & Pike V.W. Rapid palladium-catalyzed cross-coupling in the synthesis of aryl thioethers under microwave conditions. Submitted to *Tetrahedron Letters*.
- 47 Cai L., Brouwer C., Sinclair K., Cuevas J. & Pike V.W. Titanium(IV) chloride promoted synthesis of new imidazo[1,2-a]pyridine derivatives under microwave conditions. *Synthesis* (2006) 133-145.

- 48 Lu S.Y. & Pike V.W. Micro-reactors for PET tracer labeling in *PET Chemistry, The Driving Force in Molecular Imaging*. Springer-Verlag (2006), 271-285.
- 49 Lu S.-Y., Watts P., Chin F.T., Hong J., Musachio J.L., Briard E. & Pike V.W. Syntheses of ^{11}C - and ^{18}F -labeled carboxylic esters within a prefabricated hydrodynamically-driven micro-reactor. *Lab on Chip* (2004) 4, 523-525. (Selected by Royal Society of Chemistry as a ‘Hot Article’ - Oct. 2004).
- 50 See for example: Mazière M., Cantineau R., Coenen H.H., Guillaume M., Halldin C., Luxen A., Loc'h C. & Luthra S.K. PET radiopharmaceutical metabolism – plasma metabolite analysis. In *Radiopharmaceuticals for Positron Emission Tomography*, pp. 151-178 (1993). Stöcklin G. & **Pike V.W.** (Eds.). Kluwer Academic Publishers, Netherlands.
- 51 Zoghbi S.S., Shetty H.U., Ichise M., Fujita M., Imaizumi M., Liow J.-S., Shah J., Musachio J.L., Pike V.W. & Innis R.B. PET imaging of the dopamine transporter with $[^{18}\text{F}]$ FECNT: a polar radioactive metabolite confounds brain activity measurements. *J. Nucl. Med.* (2006). In press.
- 52 Shetty H.U., Zoghbi S.S., Liow J.-S., Ichise M., Hong J., Musachio J.L., Seneca N., Halldin C., Seidel J., Innis R.B. & Pike V.W. Identification and regional distribution in rat brain of radiometabolites of the dopamine transporter PET radiotracer, $[^{11}\text{C}]$ PE2I. In preparation.
- 53 Shetty H.U., Zoghbi S.S., McCarron J.A., Liow. J-S., Hong J. & Pike V.W. Characterisation of *in vivo* rat metabolites of [*O*-methyl- ^{11}C]RWAY by LC-MS. *J. Label. Compd. Radiopharm.* (2005) 48 (Suppl. 1), S278.
- 54 Cai L., Chin F.T., Pike V.W., Toyama H., Liow J.-S., Zoghbi S.S., Modell K., Briard E., Shetty H.U., Sinclair K., Donohue S., Tipre D., Kung M.-P., Dagostin C., Widdowson D.A., Green M., Gao W., Herman M.M., Ichise M. & Innis R.B. Synthesis and evaluation of two ^{18}F -Labeled IMPY derivatives as prospective radioligands for β -amyloid in Alzheimer’s disease. *J. Med. Chem.* (2004) 47, 2208-2218.
- 55 Pike V.W., Briard F., Siméon F., Shetty H.U. & Lee Y.-S. Rotational barriers in the peripheral benzodiazepine receptor ligand, PK 11195 - determination by quantum chemistry and NMR. *Abstr. Am. Chem. Soc.* (2005) MED 38.
- 56 Lepore S.D., Bhunia A.K. & Cohn P. Arylsulfonate-based nucleophile assisting leaving groups. *J. Org. Chem.* (2005) 70, 8117-8121.