National Metrology Institutes

The following bibliography lists publications originating at NMIs and designated institutions dealing with the measurement of calibration factors for radionuclide calibrators. Also included are publications detailing the effects of varying aspects of the measurements, such as container, solution volume, or solution composition, and the effect on the results.

A summary of these measurements, by radionuclide, has been tabulated in an Excel spreadsheet, available here (link).

The list and summary are works in progress. Please send suggestions to the ICRM Life Sciences Working Group Coordinator: jeffrey.cessna@nist.gov.

Applied Radiation and Isotopes 66 (2008) 994–997

**Quality audit programme for 99mTc and 131I radioactivity measurements with radionuclide calibrators**

Leena Joseph, R. Anuradha, D.B. Kulkarni

*Radiation Safety Systems Division, Bhabha Atomic Research Centre, Mumbai 400 085, India*

Applied Radiation and Isotopes 66 (2008) 988–993

**Radionuclide calibrator measurements of 18F in a 3ml plastic syringe**

J.T. Cessnaa,\*, M.K. Schultza, T. Leslieb, N. Boresc

*a National Institute of Standards and Technology, 100 Bureau Drive MS8462, Gaithersburg, MD 20899, USA*

*b PETNET Solutions, University of Tennessee Medical Center at Knoxville, Knoxville, TN 37920, USA*

*c Oak Ridge National Laboratories, P.O. Box 2008 MS6366, Oak Ridge, TN 37831, USA*

Applied Radiation and Isotopes 66 (2008) 976–980

**Primary standardization of 67Ga radiopharmaceuticals**

Ming-Chen Yuana,b, Ing-Jane Chena, Chu-Fang Wangb,\*

*a Health Physics Division, Institute of Nuclear Energy Research, No. 1000, Wunhua Road, Jiaan Village, Longtan Township,*

*Taoyuan County 32546, Taiwan, ROC*

*b Department of Biomedical Engineering and Environmental Sciences, National Tsing Hua University, Hsinchu 300, Taiwan, ROC*

Applied Radiation and Isotopes 66 (2008) 965–971

**Calibration of a radionuclide calibrator system as a Bulgarian standard for activity**

H. Schradera,\*, K. Kosserta, J. Mintchevab

*a Physikalisch-Technische Bundesanstalt, Department 6.1, Bundesallee 100, D-38116 Braunschweig, Germany*

*b National Centre of Metrology, G.M. Dimitrov Blvd. 52B, 1040 Sofia, Bulgaria*

Applied Radiation and Isotopes 65 (2007) 581–592

**Activity standardisation of 18F and ionisation chamber calibration for nuclear medicine**

H. Schrader\*, R. Klein, K. Kossert

*Physikalisch-Technische Bundesanstalt (PTB), Department 6.1, Bundesallee 100, D-38116 Braunschweig, Germany*

Applied Radiation and Isotopes 64 (2006) 1380–1383

**Absolute counting of 188Re radiopharmaceuticals**

Ming-Chen Yuana,b,\*, Hsiao-Fang Panga, Chu-Fang Wangb

*a National Radiation Standard Laboratory, Institute of Nuclear Energy Research, No. 1000, Wunhua Rd., Jiaan Village, Longtan Township,*

*Taoyuan County 32546, Taiwan, ROC*

*b Department of Atomic Science, National Tsing Hua University, Hsinchu 300, Taiwan, ROC*

Applied Radiation and Isotopes 64 (2006) 1351–1359

**Review: Radionuclide metrology in the life sciences: Recent advances and future trends**

B.E. Zimmerman\*

*Dosimetry and Medical Radiation Physics Section, Division of Human Health, International Atomic Energy Agency, Wagramer Strasse 5, Box 200, A-1400 Vienna, Austria*

Applied Radiation and Isotopes 64 (2006) 485–489

**Calibration of the Capintec CRC-712M dose calibrator for 18F**

L. Mo a,b,\*, M.I. Reinharda, J.B. Daviesa,b, D. Alexieva, C. Baldockb

*a Australian Nuclear Science and Technology Organisation (ANSTO), New Illawarra Road, Lucas Heights, NSW 2234, Australia*

*b Institute of Medical Physics, School of Physics, University of Sydney, NSW 2006, Australia*

Applied Radiation and Isotopes 63 (2005) 193–199

**Development of activity standard for 90Y microspheres**

L. Moa,b,\*, B. Avcic, D. Jamesc, B. Simpsond, W.M. Van Wyngaardtd,

J.T. Cessnae, C. Baldockb

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*e National Institute of Standards and Technology, Gaithersburg, MD 20899, USA*

Applied Radiation and Isotopes 63 (2005) 71–77

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M. Baker

*Quality of Life Division, National Physical Laboratory, Ionising Radiation Metrology Consultants Ltd., 152 Broom Road, Teddington, Middlesex TW11 0LW, UK*

The Journal of Nuclear Medicine • Vol. 45 • No. 3 • March 2004 • 450–454

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Jeffry A. Siegel, PhD1; Brian E. Zimmerman, PhD2; Kory Kodimer, PhD3; Mary A. Dell, MS4; and William E. Simon, MS5

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Applied Radiation and Isotopes 60 (2004) 535–538

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Veronika Olšovcová\*

*Czech Metrology Institute, Inspectorate for Ionizing Radiation, Radiova 1, Prague, 102 00 Czech Republic*

Applied Radiation and Isotopes 60 (2004) 511–517

**Experimental determination of calibration settings for plastic syringes containing solutions of 90Y using commercial radionuclide calibrators**

B.E. Zimmerman\*, J.T. Cessna, M.A. Millican

*Ionizing Radiation Division, National Institute of Standards and Technology, Department of Physics Laboratory, 100 Bureau Drive, Gaithersburg, MD 20899-8462, USA*

Applied Radiation and Isotopes 60 (2004) 505–510

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J.T. Cessna\*, B.E. Zimmerman, M.P. Unterweger, D.B. Golas

*Ionizing Radiation Division, National Institute of Standards and Technology, 100 Bureau Drive Stop, 8462 Gaithersburg, MD 20899-8462, USA*

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D.K. Tylera, M.J. Woodsb,\*

*a Centre for Acoustics and Ionising Radiation, National Physical Laboratory, Teddington, Middlesex TW11 0LW, UK*

*b Ionising Radiation Metrology Consultants Ltd, 152 Broom Road, Teddington, Middlesex TW11 9PQ, UK*

Applied Radiation and Isotopes 56 (2002) 957–958

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A.C. Razdolescua, M. Sahagiaa,\*, A. Lucaa, S. Berceaa, C. Dumitrescub,

H. Schraderc

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*b National Institute of Metrology, Bucharest, Romania*

*c Physikalisch-Technische Bundesanstalt, D-38116 Braunschweig, Germany*

Medical Physics Vol. 29 No.7, July 2002, 1547-1555

**Experimental investigation of dose calibrator response for 125I brachytherapy solutions contained in 5 mL plastic syringes and 2 mL conical glass v-vials as a function of filling mass**

B. E. Zimmerman and J. T. Cessna

*Physics Laboratory, National Institute of Standards and Technology, 100 Bureau Drive Stop 8462,*

*Gaithersburg, Maryland 20899-8462*

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*Proxima Therapeutics, Inc. 2555 Marconi Drive, Suite 220, Alpharetta, Georgia 30005-2066*

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*Maria Sahagia\*, Anamaria Cristina Razdolescu, E.L. Grigorescu, A. Luca, C. Ivan*

*National Institute of R&D for Physics and Nuclear Engineering ‘‘Horia Hulubei’’, IFIN-HH, PO BoxMG-6, RO 76900, Bucharest, Romania*

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D.K. Tyler\*, M. Baker, M.J. Woods

*NPL, Queens Road, Teddington, Middlesex TW11 0LW, UK*

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**Standardisation of 11C**

D.H. Woodsa,\*, M.I. Bakera, J.D. Keightleya, L.J. Keightleya, J.L. Makepeacea,

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*b Imaging Research Solutions Ltd., Cyclotron Building, Hammersmith Hospital, London W12 0NN, UK*

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**The standardization of 188W/188Re by 4πβ liquid scintillation spectrometry with the CIEMAT/NIST 3H-standard efficiency tracing method**

Brian E. Zimmerman\*, Jeffrey T. Cessna, Michael P. Unterweger

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Applied Radiation and Isotopes 54 (2001) 113-122

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B.E. Zimmermana,\*, G.J. Kubiceka, J.T. Cessnaa, P.S. Plascjakb,

W.C. Eckelmanb

*a Physics Laboratory, National Institute of Standards and Technology, Gaithersburg, MD, USA*

*b PET Department, National Institutes of Health, Bethesda, MD, USA*

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*b Nuclear Medicine R&D, Mallinckrodt, Inc. St. Louis, MO 63134, USA*

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A. Šveca,\*, H. Schraderb

*a Slovak Institute of Metrology (SMUÂ ), 842 55, Bratislava, Slovak Republic*

*b Physikalisch-Technische Bundesanstalt (PTB), D-38116, Braunschweig, Germany*

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D.H. Woods\*, M. Ciocanel, L.J. Husband, J.D. Keightley, P. de Lavison,

S. Lineham, M.J. Woods, S.A. Woods

*Centre for Ionising Radiation Metrology, National Physical Laboratory, Teddington, Middlesex TW11 0LW, UK*

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Heinrich Schrader

*Physikalisch-Technische Bundesanstalt (PTB), Bundesallee 100, D-38116 Braunschweig, Germany*

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Brian E. Zimmerman and David W. Pipes

*Physics Laboratory, National Institute of Standards and Technology, Gaithersburg, Maryland; and Nuclear Medicine and Pharma-Device R&D, Mallinckrodt, Inc., St. Louis, Missouri*

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Brian E. Zimmerman, Jeffrey T. Cessna, Michael P. Unterweger, Alex N. Li, James S. Whiting and F. F. (Russ) Knapp, Jr.

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*Department of Medical Physics and Imaging, Cedars-Sinai Medical Center, Los Angeles, California; and Life Sciences Division, Oak Ridge National Laboratory, Oak Ridge, Tennessee*

Applied Radiation and Isotopes 51 (1999) 515±526

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B.E.Zimmerman, J.T. Cessna, and F.J. Schima

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*National Physical Laboratory, Teddington, Middlesex, TW11 OLW, UK*

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