

CURRICULUM VITAE

Professor William S. Price, BSc (Hons 1) PhD (Syd) CSci CChem FRACI FRSC

ADDRESS

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AWARDS

Rennie Memorial Medal (National Medal), Royal Australian Chemical Institute (1998).
BioFirst Award, NSW State Government (2004).
Ollé Prize for Chemical Literature, Royal Australian Chemical Institute (1999).
RACI RSC Corday Morgan – Rennie Medal Exchange Lecturer (1999).
Senior Visiting Scientist, Royal Institute of Technology, Stockholm, Sweden (Senior fellowship, Swedish Council for International Cooperation in Research and Higher Education) (2000).
The Charles Gilbert Heydon Travelling Fellowship in the Biological Sciences, University of Sydney (1991-1992).
The Eleanor Sophia Wood Travelling Fellowship, University of Sydney (1991).
The Science and Technology Agency Fellowship, Australian Academy of Science /Japanese Government (1993-1995).
Postdoctoral Fellowship, National Science Council, Republic of China (1990-1993).
Commonwealth Postgraduate Research Award (1986-1989).
Travel Fellowship to attend the 11th International Biophysics Congress, IUPAB (1993).
Postgraduate Student Poster Award, Australian Biochemical Society (1987).

FELLOWSHIPS

Fellow of the Royal Society of Chemistry (2000).
Fellow of the Royal Australian Chemical Institute (1999).

POSITIONS

Professor of Nanotechnology, University of Western Sydney, (2003 Nov. -).
Full Professor of Chemistry, Tokyo Metropolitan University, Tokyo, Japan (2001 April – 2003 Aug.).
Senior Visiting Scientist, Royal Institute of Technology, Stockholm, Sweden (2000 Jan. - 2001 Feb.).
Chief Scientist, Water Research Institute, Tsukuba, Japan (1996 April- 1999 Dec.).
Research Scientist, Water Research Institute, Tsukuba, Japan (1995 March-1996 March).
STA Fellow, National Institute of Advanced Industrial Science and Technology, Tsukuba, Japan (1993 March-1995 March).

Research Fellow, Institute of Atomic and Molecular Sciences, Academia Sinica, Taipei, Taiwan, ROC (1990 Sept.-1993 March).

Consultant, Australian Membrane and Biotechnology Research Institute Ltd. (AMBRI), CSIRO Division of Food Processing (1990 June-1990 July).

MEMBERSHIP OF PROFESSIONAL SOCIETIES

American Biophysical Society (1986 -).

Australian and New Zealand Society for Magnetic Resonance (ANZMAG) (2000 -).

Australian Society for Biochemistry and Molecular Biology Inc (1985 -).

Australian Society for Biophysics (1986 -).

Chinese Chemical Society (Taiwan), (1991 -life member).

Royal Australian Chemical Institute (1993 -).

Royal Society of Chemistry (2000 -).

MAJOR RESEARCH INTERESTS

Nanotechnology and Nanobiotechnology: Especially molecular dynamics in biological and chemical systems using NMR imaging (aka MRI), relaxation and pulsed gradient spin-echo NMR diffusion measurements. My research has direct applications to a wide range of practical problems including pharmaceutical screening and lithium batteries.

TERTIARY EDUCATION

UNDERGRADUATE

Bachelor of Science Degree (Honours I), Department of Biochemistry, University of Sydney, Sydney, Australia 1982-1985.

Thesis Title: Conformation of a heptadecapeptide encephalitogenic in rhesus monkey.

Supervisors: Professor Philip W. Kuchel FAA and Dr. George L. Mendz.

POSTGRADUATE

PhD in Physical Biochemistry, Department of Biochemistry, University of Sydney, Sydney, Australia 1986-1990.

Thesis Title: An NMR study of diffusion, viscosity and transport of small molecules in human erythrocytes.

Supervisors: Professor Philip W. Kuchel FAA and Dr. Bruce A. Cornell (Senior Vice President and Chief Scientist, AMBRI Pty Ltd).

POSTDOCTORAL

September 1990 - March 1993 Postdoctoral Fellow at the Institute of Atomic and Molecular Sciences, Academia Sinica, Taipei, Taiwan, Republic of China.

Research Field: The development and subsequent application of NMR relaxation methods (including multiple quantum methods) and pulsed-gradient spin-echo NMR spectroscopic methods for probing molecular dynamics in biological and chemical systems.

Supervisor: Professor Lian-Pin Hwang (Institute of Atomic and Molecular Sciences and Chairman of the Chemistry Department, National Taiwan University).

March 1993 - March 1995 STA Fellow at the National Institute of Advanced Industrial Science and Technology, Tsukuba, Japan.

Research Field: ^2H solid-state NMR of molecular dynamics in synthetic and biopolymer systems. Theoretical developments in the theory of using pulsed-gradient spin-echo NMR to measure transport.

Supervisor: Dr. Kikuko Hayamizu (Section head, Department of Physical Chemistry).

PUBLICATIONS

BOOK CHAPTERS

1. **Price, W.S.** (1996) Gradient NMR. In: *Annual Reports on NMR Spectroscopy*, (G. A. Webb, Ed.), Academic Press. **32**, pp. 51-142. (**Invited review chapter**).
2. **Price, W.S.** (1998) NMR imaging. In: *Annual Reports on NMR Spectroscopy*, (G. A. Webb, Ed.), Academic Press. **35**, pp. 139-216. (**Invited review chapter**).
3. **Price, W.S.**, Tsuchiya, F. and Arata, Y. (1999) Protein aggregation studies using PFG NMR diffusion measurements. In: *Advances in Magnetic Resonance in Food Science*, (P. S. Belton, B. P. Hills and G. A. Webb, Eds.), Royal Society of Chemistry. pp. 35-42.
4. **Price, W.S.** (1999) Water signal suppression in NMR spectroscopy. In: *Annual Reports on NMR Spectroscopy*, (G. A. Webb, Ed.), Academic Press. **38**, pp. 289-354. (**Invited review chapter**).
5. Ishikawa, M., Ide, H., **Price, W.S.**, Arata, Y. and Kitashima, T. (1999) Freezing behaviors in plant tissues as visualized by NMR microscopy and their regulatory mechanisms. In: *Cryopreservation of Tropical Plant Germplasm. Current Research Progress and Application*, (F. Engelmann and H. Takagi, Eds.), IPGRI. pp. 22-35.
6. **Price, W.S.** (2000) Probing molecular dynamics in biochemical and chemical systems using pulsed field gradient NMR diffusion measurements. In: *New Advances in Analytical Chemistry*, (Atta-ur-Rahman, Ed.), Harwood Academic Publishers. Vol. I, pp. 31-72. (**Invited review chapter**).
7. Sakaguchi, U., Ozawa, H., Amano, C., Fukumi, D. and **Price, W.S.** (2000) Implementation of the Collins-Kim-Holton algorithm to solve the Deutch's problem on one-, two-, and three-qubit NMR quantum computers. In: *Mathematical Aspects of Quantum Information and Quantum Chaos*, (M. Ohya, Ed.) RIMS Kokyuroku No. 1142, Research Institute for Mathematical Sciences, Kyoto University. pp. 36-52.
8. **Price, W.S.** (2000) NMR gradient methods in the study of proteins. In: *Annual Reports on the Progress in Chemistry Part C*, (G. A. Webb, Ed.), Royal Society of Chemistry. **96**, pp. 3-53. (**Invited review chapter**).
9. **Price, W.S.** (2002) Diffusion-based studies of aggregation, binding, and conformation of biomolecules: Theory and practice. In: *Encyclopedia of Nuclear Magnetic Resonance*, (D. M. Grant and R. K. Harris, Eds.), Wiley. Vol. **9**. pp. 364-374. (**Invited review chapter**).
10. **Price, W.S.** (2002) Solvent/water suppression in NMR. In: *New Advances in Analytical Chemistry*, (Atta-ur-Rahman, Ed.), Taylor and Francis. Vol. III, pp. 119-162. (**Invited review chapter**).

11. **Price, W.S.** (2005) Applications of Pulsed Gradient Spin-Echo NMR Diffusion Measurements to Solution Dynamics and Organization. In: *Diffusion Fundamentals: Basic Principles of Theory, Experiment and Applications*, (J. Kärger, F. Grinberg, and P. Heitjans, Eds.), Leipzig University Press. pp. 490-508. (**Invited chapter**).
12. **Price, W.S.** (2006) NMR diffusometry. In: *Modern Magnetic Resonance*, (G. A. Webb, Ed.), Springer. pp. 105-111 ISBN: 1402038941. (**Invited review chapter**).
13. Yadav, N. and **Price, W.S.** (2007) Effects of Polydispersity on PGSE NMR Coherence Features. In: *Diffusion Fundamentals II*, (S. Brandani, C. Chmelik, J. Kärger, and R. Volpe, Eds.), Leipzig University Press. pp. 40-51. (**Invited chapter**).
14. Reddy, N., Wilson, M.A., Kannangara, G.S.K., **Price, W.S.** and Lee, G.S.H. (2008) Forensic Applications of NMR Imaging and Solid State NMR Spectroscopy. In: *Forensic Photography and Imaging (International Forensic Science and Investigation)* (G. Porter, Ed.) CRC Press. ISBN: 0849331471. In press.

JOURNAL PUBLICATIONS (REFEREED)

1. **Price, W.S.**, Mendz, G.L., and Martenson, R.E. (1988) Conformation of a heptadecapeptide encephalitogenic in rhesus monkey. *Biochemistry* **27**, 8990-8999.
2. **Price, W.S.**, Kuchel, P.W., and Cornell, B.A. (1989) Microviscosity of human erythrocytes studied with hypophosphite and ^{31}P NMR. *Biophys. Chem.* **33**, 205-215.
3. **Price, W.S.**, Roufogalis, B.D., and Kuchel, P.W. (1989) A simple and inexpensive method for preparing erythrocyte membranes by filtration through a hollow-fibre system. *Anal. Biochem.* **179**, 190-193.
4. **Price, W.S.**, Chapman, B.E., Cornell, B.A., and Kuchel, P.W. (1989) Translational diffusion of glycine in erythrocytes measured at high resolution with pulsed field gradients. *J. Magn. Reson.* **83**, 160-166.
5. **Price, W.S.**, and Kuchel, P.W. (1989) Hypophosphite transport in human erythrocytes studied by 'overdetermined' one-dimensional exchange analysis. *NMR in Biomedicine* **3**, 59-63.
6. **Price, W.S.**, and Kuchel, P.W. (1990) Restricted diffusion of bicarbonate and hypophosphite ions modulated by transport in suspensions of red blood cells. *J. Magn. Reson.* **90**, 100-110.
7. **Price, W.S.**, Chapman, B.E. and Kuchel, P.W. (1990) Correlation of viscosity and conductance with $^{23}\text{Na}^+$ NMR T_1 measurements. *Bull. Chem. Soc. Jpn.* **63**, 2961-2965.
8. **Price, W.S.**, and Kuchel, P.W. (1991) Effect of non-rectangular gradient pulses in the Stejskal and Tanner (diffusion) pulse sequence. *J. Magn. Reson.* **94**, 133-139.
9. **Price, W.S.**, Kuchel, P.W., and Cornell, B.A. (1991) A ^{35}Cl and ^{37}Cl NMR study of chloride binding to the erythrocyte anion transport protein. *Biophys. Chem.* **40**, 329-337.

10. Minami, T., **Price, W.S.**, and Cutler, D.J. (1992) Chloride-37 nuclear magnetic resonance spectroscopic study of binding of salicylic acid and other hydroxybenzoic acids to the band 3 anion transport protein of human erythrocytes. *J. Pharm. Sci.* **81**, 419-423.
11. Tsai, C.-L., **Price, W.S.**, Chang, Y.-L., Perng, B.-C., and Hwang, L.-P. (1991) Multi-spin order relaxation study of the hypophosphite ion. *J. Phys. Chem.* **95**, 7546-7551.
12. **Price, W.S.**, Perng, B.-C., Tsai, C.-L., and Hwang, L.-P. (1992) Microviscosity of human erythrocytes studied using hypophosphite two-spin order relaxation. *Biophys. J.* **61**, 621-630.
13. **Price, W.S.**, Ge, N.-H., and Hwang, L.-P. (1992) Effects of higher-rank multipoles on spectral lineshapes of $I = 3/2$ quadrupolar nuclei near the null point in inversion recovery experiments. *J. Magn. Reson.* **98**, 134-141.
14. Ge, N.-H., **Price, W.S.**, Hong, L.-Z., and Hwang, L.-P. (1992) Application of null point spectra in inversion recovery experiments for studying $I = 3/2$ quadrupolar nuclei involved in exchange processes. *J. Magn. Reson.* **97**, 656-660.
15. **Price, W.S.**, Ge, N.-H., Hong, L.-Z., and Hwang, L.-P. (1993) Characterization of chloride ion binding to human serum albumin using Cl NMR null point analysis. *J. Am. Chem. Soc.* **115**, 1095-1105.
16. **Price, W.S.**, and Hwang, L.P. (1992) Some recent developments in NMR approaches for studying liquid molecular dynamics and their biological applications. *J. Chin. Chem. Soc.* **39**, 479-496.
17. Perng, W.C., **Price, W.S.**, Hsu, K., and Hwang, L.-P. (1993) The effects of hypothermia on the intracellular pH of erythrocytes studied using ^{31}P NMR and endogenous compounds. *Eur. J. Clin. Chem. Clin. Biochem.* **31**, 413-418.
18. **Price, W.S.**, Perng, W.C., Kwok, W.M., and Hwang, L.-P. (1993) Applications of high field NMR spectroscopy to clinical medicine. *Chin. J. Magn. Reson.* **10**, 453-476.
19. **Price, W.S.**, Chang, W.T., and Hwang, L.-P. (1994) Design and construction of a pulsed field gradient NMR probe for a high field superconducting magnet. *J. Chinese Chem. Soc.* **41**, 119-127.
20. Chang, W.T., Shen, Z.S., **Price, W.S.**, Ge, N.-H. and Hwang, L.-P. (1994) Effects of higher rank multipoles on spectral lineshapes near the null point in the inversion recovery experiment. *J. Magn. Reson.* **A109**, 98-102.
21. Barzykin, A.V., Hayamizu, K., **Price, W.S.**, and Tachiya, M. (1995) Pulsed field gradient NMR of diffusive transport through a spherical interface into an external medium containing a relaxation agent. *J. Magn. Reson.* **A114**, 39-46.
22. **Price, W.S.**, and Hayamizu, K. (1995) Artifacts in experimental and simulated solid-state ^2H NMR powder spectra. *J. Magn. Reson.* **A114**, 73-79.

23. **Price, W.S.**, Kikuchi, N., Hayamizu, K., Matsuda, H., Okada, S., and Nakanishi, H. (1995) Factors affecting the solid-state polymerization of 1,4-bis(1,3-octadecadiynyl)benzene to a polydiacetylene. *Macromolecules* **28**, 5363-5369.
24. Naito, A., Iizuka, T., Tuzi, S., **Price, W.S.**, Hayamizu, K., and Saito, H. (1995) Phenyl ring dynamics of the insulin fragment Gly-Phe-Phe(B23-B25) by solid state deuterium NMR. *J. Mol. Struct.* **355**, 55-60.
25. **Price, W.S.**, and Arata, Y. (1996) The manipulation of water relaxation and water suppression in biological systems using the Water-PRESS pulse sequence. *J. Magn. Reson.* **B112**, 190-192.
26. **Price, W.S.**, Nara, M., and Arata, Y. (1997) A pulsed field gradient NMR study of the aggregation and hydration of parvalbumin. *Biophys. Chem.* **65**, 179-187.
27. **Price, W.S.**, Hayamizu, K., and Arata, Y. (1997) Optimization of the Water-PRESS pulse sequence and its integration into pulse sequences for studying biological macromolecules. *J. Magn. Reson.* **126**, 256-265.
28. **Price, W.S.**, Ide, H., Arata, Y., and Ishikawa, M. (1997) Visualization of freezing behaviours in flower bud tissues of cold hardy *Rhododendron japonicum* by nuclear magnetic resonance micro-imaging. *Aust. J. Plant Physiol.* **24**, 599-605.
29. **Price, W.S.** (1997) Pulsed-field gradient NMR as a tool for studying translational diffusion. Part I. Basic theory. *Concepts Magn. Reson.* **9**, 299-336.
30. Ishikawa, M., **Price, W.S.**, Ide, H., and Arata, Y. (1997) Visualization of freezing behaviors in leaf and flower buds of Full-Moon Maple by nuclear magnetic resonance microscopy. *Plant Physiol.* **115**, 1515-1524.
31. **Price, W.S.**, Ide, H., Ishikawa, M., and Arata, Y. (1997) Intensity changes in ¹H-NMR micro-images of plant materials exposed to subfreezing temperatures. *Bioimages* **5**, 91-99.
32. Hayamizu, K., **Price, W.S.**, Matsuda, H., Okada, S., and Nakanishi, H. (1998) NMR studies of polydiacetylenes having alkyl chains. Molecular motions of precursor monomers and the polymers at various stages of the solid-state polymerization. *J. Mol. Struct.* **441**, 205-211.
33. Hayamizu, K., Aihara, Y., Arai, S. and **Price, W.S.** (1998) Diffusion, conductivity and DSC studies of a polymer electrolyte composed of cross-linked PEO, γ -butyrolactone and LiBF₄. *Solid State Ionics* **107**, 1-12.
34. Ide, H., **Price, W.S.**, Arata, Y., and Ishikawa, M. (1998) Freezing behaviors in leaf buds of cold hardy conifers visualized by NMR. *Tree Physiol.* **18**, 451-458.
35. **Price, W.S.**, Barzykin, A.V., Hayamizu, K., and Tachiya, M. (1998) A model for diffusive transport through a spherical interface probed by pulsed field gradient NMR. *Biophys. J.* **74**, 2259-2271.
36. **Price, W.S.** (1998) Pulsed-field gradient NMR as a tool for studying translational diffusion. Part II. Experimental aspects. *Concepts Magn. Reson.* **10**, 197-237.

37. **Price, W.S.**, Tsuchiya, F., Suzuki, C. and Arata, Y. (1999) Characterization of the solution properties of *pichia farina* killer toxin using PGSE NMR diffusion measurements. *J. Biomol. NMR*. **13**, 113-117.
38. **Price, W.S.**, Ide, H. and Arata Y. (1999) Self-diffusion of supercooled water to 238 K using PGSE NMR diffusion measurements. *J. Phys. Chem. A*. **103**, 448-450.
39. **Price, W.S.**, Hayamizu, K., Ide, H., and Arata, Y. (1999) Strategies for diagnosing and alleviating artifactual attenuation associated with large gradient pulses in PGSE NMR diffusion measurements. *J. Magn. Reson.* **139**, 205-212.
40. **Price, W.S.**, Kobayashi, A., Ide, H., Natori, S. and Arata, Y. (1999) Visualising the postembryonic development of *Sarcophaga Peregrina* (flesh fly) by NMR Microscopy. *Physiological Entomology* **24**, 386-390.
41. **Price, W.S.**, Tsuchiya, F., and Arata, Y. (1999) Lysozyme aggregation, and solution properties studied using PGSE NMR. *J. Am. Chem. Soc.* **121**, 11503-11512.
42. Hayamizu, K., Aihara, Y., Arai, S. and **Price, W.S.** (2000) Self-diffusion coefficients of lithium, anion, polymer and solvent in polymer gel electrolytes measured using ^7Li , ^{19}F and ^1H pulsed-gradient spin-echo NMR. *Electrochimica Acta* **45**, 1313-1319.
43. **Price, W.S.** and Söderman, O. (2000) Self-diffusion coefficients of some hydrocarbons in water: Measurements and scaling relations. *J. Phys. Chem. A* **104**, 5892-5894.
44. Aihara, Y., Sugimoto, K., **Price, W.S.**, Hayamizu, K. (2000) Ionic conduction and self-diffusion near infinitesimal concentration in lithium salt-organic solvent electrolytes. *J. Chem. Phys.* **113**, 1981-1191.
45. **Price, W.S.**, Ide, H., Arata, Y. and Söderman, O. (2000) Temperature dependence of the self-diffusion of supercooled heavy water to 244 K. *J. Phys. Chem. B* **104**, 5874-5876.
46. **Price, W.S.**, Ide, H., and Arata Y. (2000) Translational and rotational motion of isolated water molecules in nitromethane studied using ^{17}O NMR. *J. Chem. Phys.* **113**, 3686-3689.
47. Hayamizu, K., Aihara, Y., and **Price, W.S.** (2000) Correlating the NMR self-diffusion and relaxation measurements with ionic conductivity in polymer electrolytes composed of cross-linked *poly*(ethyleneoxide-propyleneoxide) doped with $\text{LiN}(\text{SO}_2\text{CF}_3)_2$. *J. Chem. Phys.* **113**, 4785-4793.
48. Hayamizu, K., Aihara, Y., and **Price, W.S.** (2001) NMR and ion conductivity studies on cross-linked *poly*(ethylene oxide-propylene oxide) and branched polyether doped with $\text{LiN}(\text{SO}_2\text{CF}_3)_2$. *Electrochimica Acta* **46**, 1475-1485.
49. **Price, W.S.**, Tsuchiya, F., and Arata, Y. (2001) Time-dependence of aggregation in crystallizing lysozyme solutions using PGSE NMR self-diffusion measurements. *Biophys. J.* **80**, 1585-1590.

50. **Price, W.S.**, Stilbs, P., Jönsson, B. and Söderman, O. (2001) Macroscopic background gradient and radiation damping effects on high-field PGSE NMR diffusion measurements. *J. Magn. Reson.* **150**, 49-56.
51. Hayamizu, K., Sugimoto, K., Akiba, E., Aihara, Y., Bando, T. and **Price, W.S.** (2002) An NMR and ionic conductivity study of ion dynamics in liquid polyethyleneoxide-based electrolytes doped with $\text{LiN}(\text{SO}_2\text{CF}_3)_2$. *J. Phys. Chem. B* **106**, 547-554.
52. **Price, W.S.**, Elwinger, F., Vigouroux, C. and Stilbs, P. (2002) PGSE-WATERGATE, a new tool for NMR diffusion-based studies of ligand-macromolecule binding. *Magn. Reson. Chem.* **40**, 391-395. (The paper related was featured on Wiley's SpectroscopyNow website)
53. **Price, W.S.** and Wälchli, M. (2002) NMR diffusion measurements of strong signals: The PGSE-*Q*-switch experiment. *Magn. Reson. Chem.* **40**, S128-S132. (Invited paper).
54. **Price, W.S.**, Stilbs, P. and Söderman, O. (2003) Determination of pore space shape and size in porous systems using NMR diffusometry. Beyond the short gradient pulse approximation. *J. Magn. Reson.* **160**, 139-143.
55. Hayamizu, K., Akiba, A. Bando, T., Aihara, Y. and **Price, W.S.** (2003) NMR studies on polyethyleneoxide-based polymer electrolytes with different cross-linking doped with $\text{LiN}(\text{SO}_2\text{CF}_3)_2$. Restricted diffusion of the polymer and lithium ion and time-dependent diffusion of the anion. *Macromolecules.* **36**, 2785-2792.
56. **Price, W.S.**, Ide, H. and Arata, Y. (2003) Solution dynamics in aqueous monohydric alcohol systems. *J. Phys. Chem. A* **107**, 4784-4789.
57. **Price, W.S.** (2003) Recent advances in NMR diffusion techniques for studying drug binding. *Aust. J. Chem.* **56**, 855-860. (Invited paper).
58. **Price, W.S.** and Söderman, O. (2003) Some 'reflections' on the effects of finite gradient pulse lengths in PGSE NMR experiments in restricted systems. *Israel J. Chem.* **43**, 25-32. (Invited paper).
59. Hayamizu, K., Akiba, E. and **Price, W.S.** (2003) Ion diffusion restricted by time-dependent barriers in a viscous polyethylene-based liquid electrolyte. *Macromolecules* **36**, 8596-8598.
60. Aihara, Y., Bando, T., Nakagawa, H., Yoshida, H., Hayamizu, K., Akiba, E. and **Price, W.S.** (2004) Ion transport properties of six lithium salts dissolved in γ -butyrolactone studied by self-diffusion and ionic conductivity measurements. *J. Electrochem. Soc.* **15**, A119-A122.
61. Hayamizu, K. and **Price, W.S.** (2004) A new type of NMR tube for reducing convection effects in PGSE-NMR measurements of self-diffusion coefficients of liquid samples. *J. Magn. Reson.* **167**, 328-333.
62. **Price, W.S.** and Hill, J.O. (2004) Raising the status of chemistry education. *U. Chem. Ed.* **8**, 13-20.
63. Söderman, O., Stilbs, P. and **Price W.S.** (2004) NMR of surfactants. *Concepts in Magnetic Resonance.* **23A**, 121-135.

64. **Price, W.S.**, Aihara, Y. and Hayamizu, K. (2004) NMR Studies of Nanoscale Organization and Dynamics in Polymer Electrolytes. *Aust. J. Chem.* **57**, 1185-1190.
65. Nakagawa, H., Aihara, Y., Nukuda, T., Hayamizu, K. and **Price, W.S.** (2004) Ionic conduction and ion diffusion in binary room-temperature ionic liquids composed of [emim][BF₄] and LiBF₄. *J. Phys. Chem. B* **108**, 19527-19532.
66. Ishikawa, M., Ide, H., Price, W.S. and Arata, Y. (2004) NMR micro-imaging for visualizing freezing behaviour in plant tissues. *Cryobiology and Cryotechnology*. **50**, 21-31.
67. Borompichaichartkul, C., Moran, G., Srzednicki, G. and **Price, W.S.** (2005) Nuclear magnetic resonance (NMR) and magnetic resonance imaging (MRI) studies of corn at subzero temperatures. *J. Food Engineering*. **69**, 199-205.
68. **Price, W.S.** (2005) Applications of pulsed gradient spin-echo NMR diffusion measurements to solution dynamics and organization. *Diffusion Fundamentals* **2**, 112.1-112.19.
69. **Price, W.S.** (2006) Protein association studied using NMR diffusometry. *Current Opinion in Colloid and Interface Science*. **11**, 19-23. (**Invited paper**).
<http://dx.doi.org/10.1016/j.cocis.2005.10.005>
70. Inglis, S.R., McGann, M.J., **Price, W.S.**, and Harding, M.M. (2006) Diffusion NMR studies on fish antifreeze proteins and synthetic analogues. *FEBS Lett.* **580**, 3911-3915.
71. **Price, W.S.** Hallberg, F., and Stilbs, P. (2007) A PGSE diffusion and electrophoretic NMR study of Cs⁺ and Na⁺ dynamics in aqueous crown ether systems. *Magn. Reson. Chem.* **45**, 152-156.
72. Still, B.M., Anil Kumar, P.G., Aldrich-Wright, J.R., and **Price, W.S.**, (2007) ¹⁹⁵Pt theory and application. *Chem. Soc. Rev.* **36**, 665-686.
73. Zheng, G. and **Price, W.S.**, (2007) Suppression of background gradients in (B₀ gradient-based) NMR diffusion experiments. *Concepts in Magn. Reson.* **30A**, 261-277.
74. Traytak, S.D. and **Price, W.S.**, (2007) Exact solution for anisotropic diffusion-controlled reactions with partially reflective conditions. *J. Chem. Phys.* **18**, 184508-1-184508-8.
75. Wheate, N. J., Anil Kumar, P.G., Torres, A.M., Aldrich-Wright, J.R. and **Price, W.S.**, (2007) Examination of cucurbit[7]uril and its host-guest complexes by diffusion NMR. *J. Phys. Chem. B*. In press.
76. Zheng, G., Stait-Gardner, T., Anil Kumar, P.G. Torres, A.M. and **Price, W.S.** (2007) PGSTE-WATERGATE: A stimulated-echo-based PGSE NMR sequence with excellent solvent suppression. *J. Magn. Reson.* In press.