

Preface

The 13th International Symposium on Solubility Phenomena and Related Equilibrium Processes (ISSP-13) was held at Trinity College, Dublin, Ireland, 27–31 July 2008. The symposium was sponsored by IUPAC, and arrangements were carried out by Trinity College, Dublin and University College, Dublin.

About 80 delegates attended the symposium from 27 different countries. The meeting comprised 8 invited speakers, 30 oral presentations, and 21 poster presentations.

The ISSP was first organized in 1984, is held in even-numbered years, and was an outcrop of the solubility data project where a team of experts provides critical compilations of solubility data of importance in various technologies.

Each symposium has a well-defined focus which incorporates experimental methods, data analysis, modeling, and predictive methods and general applications of solubility phenomena.

Previous symposia have focused on several themes related to solubility. These have included solubility phenomena related to atmospheric and environmental chemistry, solubility phenomena in physiology, medicine and pharmacology, solubility phenomena in salt industries, thermodynamic and kinetic aspects of solubility equilibria, and solubility phenomena related to waste processing, to name a few.

This issue of *Pure and Applied Chemistry* contains seven contributions from the invited lectures presented at the symposium: Modification of molecular organization of polymers by gas sorption: Thermodynamic aspects and industrial applications (J. P. Grolier, France); Solubility and related properties in hydrometallurgy (E. Königsberger, Australia); Thermodynamics of trivalent actinides and neodymium in NaCl, MgCl₂, and CaCl₂ solutions: Solubility, hydrolysis and ternary Ca–M(III)–OH complexes (V. Neck, Germany); A more realistic approach to speciation based on the stability constants database (L. Pettit, UK); Surface complexation and proton-promoted dissolution in aqueous apatite systems (S. Sjöberg, Sweden); Solubility and critical phenomena in reactive liquid–liquid systems (A. Toikka, Russia); and Dispersion of antimony from oxidizing ore deposits (P. Williams, Australia).

The conference program, as reflected both by the invited lectures as well as the oral communications and poster presentations, covered a variety of research areas such as: thermodynamics of species relative to nuclear waste storage, gas polymer interactions with reference to the petrochemical industry, hydrometallurgy, geochemistry, environmental aspects of solubility, as well as critical phenomena and the interpretation of a variety of phase diagrams.

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