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Reader in Inorganic Chemistry

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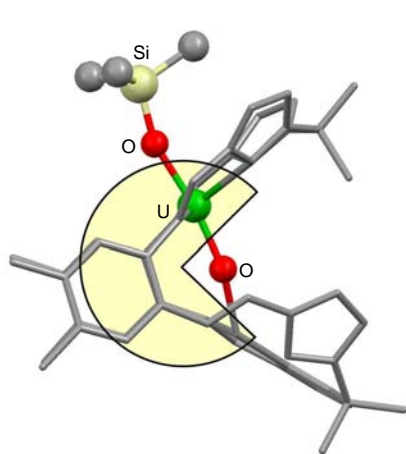
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Research Interests: Sustainable chemistry and energy, f-element compounds, ligand and macrocycle design, supramolecular catalysis, extractive metallurgy

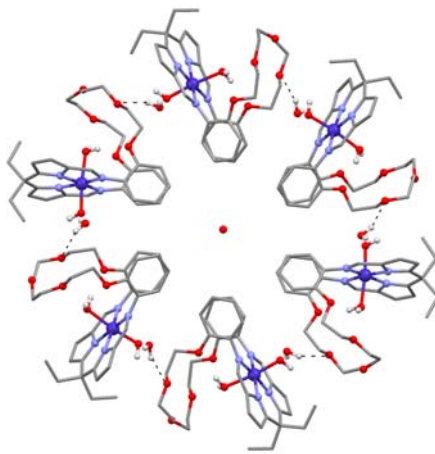


The Love group carries out research into the design and synthesis of molecular metal complexes that can promote new and sustainable chemical reactivity and give fundamental insight into how metal compounds assemble and interact with substrates.

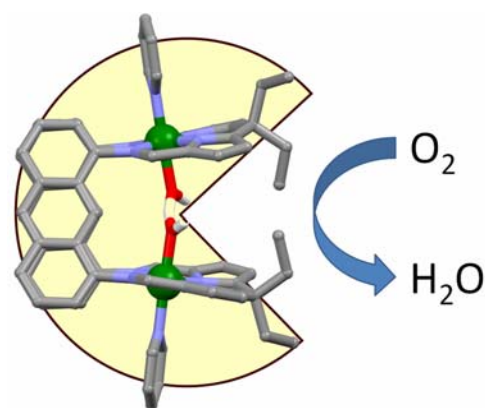
We are specifically interested in: the chemistry of the uranyl dication and the f-elements; Pacman complexes that provide insight into sustainable energy generation and exploitation; the activation and transformation of small molecules, in particular  $N_2$ ,  $O_2$ ,  $H_2$ , and  $CO_2$ , by transition metal complexes; the design of new multidentate ligands and macrocycles; the spontaneous assembly and reactivity of supramolecular systems; the design of reagents for precious and radioactive metal extraction and remediation.



URANIUM CHEMISTRY



WHEELS AND CAPSULES



REDOX CATALYSIS

## SELECTED RECENT PUBLICATIONS

1. Leeland, J. W., White, F. J., and Love, J. B. "Encapsulation of a magnesium hydroxide cubane by a bowl-shaped polypyrrolic Schiff base macrocycle," *J. Am. Chem. Soc.*, **2011**, 133, 7320-7323
2. Arnold, P. L., Hollis, E., White, F. J., Magnani, N., Caciuffo, R., and Love, J. B. "Single-electron uranyl reduction by a rare-earth cation," *Angew. Chem. Int. Ed.*, **2011**, 50, 887-890
3. Arnold, P. L., Pécharman, A-F., Hollis, E., Yahia, A., Maron, L., Parsons, S., and Love, J. B. "Uranyl oxo activation and functionalization by metal cation coordination," *Nat. Chem.*, **2010**, 2, 1056-1061
4. Love, J. B., "A macrocyclic approach to transition metal and uranyl Pacman complexes," *Chem. Commun.*, **2009**, 3154-3165. (Feature article)
5. Arnold, P. L., Patel, D., Wilson, C. and Love, J. B. "Reduction and selective oxo-group silylation of the uranyl dication," *Nature*, **2008**, 451, 315-317
6. Leeland, J. W., White, F. J., and Love, J. B. "Hexagonal wheel formation through the hydrogen-bonded assembly of cobalt Pacman complexes," *Chem. Commun.*, **2011**, 47, 4312-4314
7. Askarizadeh, E., Yaghoob, S. B., Boghaei, D. M., Slawin, A. M. Z. and Love, J. B., "Tailoring dicobalt Pacman complexes of Schiff-base calixpyrroles towards dioxygen reduction catalysis," *Chem. Commun.*, **2010**, 46, 710-712.