

Selected publications:

- (1) J.P. Smit, H.-S. Kim (co-first author), J. D. Pless, P. C. Stair, K. R. Poeppelmeier, "Probing the Vanadyl and Molybdenyl Bonds in Complex Vanadomolybdate Structures" *Inorganic Chemistry*, 45, 521 (2006) (Cover article).
- (2) J. D. Pless, H.-S. Kim (co-first author), X. Wang, J. P. Smit, P. C. Stair, K. R. Poeppelmeier, "Structure of $\text{Mg}_{2.56}\text{V}_{1.12}\text{W}_{0.88}\text{O}_8$ and Vibrational Raman Spectra of $\text{Mg}_{2.5}\text{VWO}_8$ and $\text{Mg}_{2.5}\text{VMoO}_8$ " *Inorganic Chemistry*, 45, 514 (2006) (Cover Article).
- (3) Z. Wu, H.-S. Kim, P. C. Stair*, S. Rugmini, S. D. Jackson, "On the Structures of Vanadium Oxide Supported on Aluminas: UV and Visible Raman Spectroscopy, UV-Visible Diffuse Reflectance Spectroscopy, and Temperature-Programmed Reduction Studies" *J. Phys. Chem. B* 109, 2793 (2005).
- (4) H. S. Kim and P. C. Stair, "Bacterially Produced Manganese Oxide and Manganese Oxide Minerals: UV Raman Spectroscopic Comparison" *J. Phys. Chem. B* 108, 17019 (2004).
- (5) J. D. Pless, B. B. Bardin, H.-S. Kim, D. Ko, M. T. Smith, R. R. Hammond, P. C. Stair, K. R. Poeppelmeier, "Catalytic Oxidative Dehydrogenation of Propane over Mg-V/Mo Oxides", *J. Catal.* 223, 419 (2004).
- (6) H. S. Kim, P.A. Pastén, J.-F. Gaillard, and P. C. Stair, "Nanocrystalline Todorokite-like Manganese Oxide Produced by Bacterial Catalysis" *J. Am. Chem. Soc.* (Communication) 125 (47), 14284 (2003).
- (7) H. S. Kim and R. J. Saykally, "An ion beam reflectron/ single-photon infrared emission spectrometer for the study of gas-phase polycyclic aromatic hydrocarbons ions: testing proposed carriers of the unidentified infrared emission bands" *Rev. Sci. Instrum.*, 74 (4), 2488 (2003)
- (8) H. S. Kim and R. J. Saykally, "Single-Photon Infrared Emission Spectroscopy of gaseous Polycyclic Aromatic Hydrocarbon cations: A direct test for proposed carriers of the Unidentified Infrared Emission bands" *Astrophys. J. Suppl. Ser.*, 143, 455 (2002)
- (9) H. S. Kim, D. R. Wagner, and R. J. Saykally, "Single Photon Infrared Emission Spectroscopy of the gas phase pyrene cation: Support for a polycyclic aromatic hydrocarbon origin of the Unidentified Infrared Emission bands" *Phys. Rev. Lett.* 86 (25), 5691 (2001)
- (10) Z.-X. Gao, H.-S. Kim, Q. Sun, P. C. Stair, and W. M. H. Sachtler, "UV-Raman characterization of iron peroxo adsorbates on Fe/MFI catalyst with high activity for NO_x reduction" *J. Phys. Chem. B* 105 (26), 6186 (2001)
- (11) D. R. Wagner, H. S. Kim, and R. J. Saykally, "Peripherally hydrogenated neutral polycyclic aromatic hydrocarbons as carriers of the 3 micron interstellar infrared emission complex: Results from single-photon infrared emission spectroscopy" *Astrophys. J.*, 545 (2), 854 (2000)
- (12) H. S. Kim and K. Kim, "Infrared spectra of sodium and benzene in solid argon" *Chem. Phys. Lett.* 250 (2), 192 (1996)
- (13) H. S. Kim and K. Kim, "Infrared spectra of benzene in solid argon" *Spectrosc. Lett.* 29 (4), 667 (1996)