# Honors 2004

Requirements for Honors in Chemistry include a program of research with readings from the original literature, presentation of an Honors Essay, typically about 60 pages in length, and the satisfactory completion of a comprehensive oral examination in the subject area of the research. Fourteen Seniors were awarded Honors in Chemistry. Faculty mentors' names are in parentheses.

**Chip Crawford** (Knudson)
Semi-Classical Wave Functions for Selected One-Electron Diatomic Molecules

**Liz Culyba** (Starnes)
Mechanism of Action of "Plasticizer Thiols" as Thermal Stabilizers for Poly(vinyl chloride)

**Mirth Hoyt** (Harbron)
Ensemble and Single Molecule Fluorescence of the HIV-1 Nucleocapsid Protein

**Kelly Kennett** (Landino)
Purification of Thioredoxin Reductase and the Characterization of Tubulin Repair by the Thioredoxin Reductase Repair System

**Mary Kim** (DeFotis)
The Magnetic Properties of $Fe_{1-x}Ni_xCl_2 \cdot 2H_2O$ and Thermoremanent Magnetization Decay in $Co_{1-x}Mn_yFe_{x-y}Cl_2 \cdot 2H_2O$

**Nicole Litvinas** (Hinkle)
The Total Synthesis of Racemic (*cis*-6-Methyltetrahydropyran-2-yl)acetic Acid

**Kristin Plichta** (Orwoll)
Poly(arylene ether) Synthetic Methods for Use in Outer Space Radiation Shielding

**Kat Potter** (Hale, VIMS)
Polybrominated Diphenyl Ether Flame Retardants in Peregrine Falcon Eggs from Coastal Virginia and Maryland

**Olivia Schroeder** (Poutsma)
Experimental and Computational Investigations of the Influence of Molecular Structure on Gas-Phase Proton Affinity

**Todd Showalter** (Starnes)
Retardants for Plasticized Poly(vinyl chloride)

**Steve Silvonek** (Abelt)
The Attempted Synthesis and Characterization of a Model Compound of 6-Propoinyl-2-dimethylaminonapthalene (Prodan)

**Sarah Stamps** (Bebout)
Synthesis and Heavy Metal Coordination of N- and S-Donating Ligands

**Kathryn Taylor** (Pike)
Synthesis of Copper and Zinc Complexes for Cation Exchange in Clays

**Diana West** (Kiefer)
Carborane-Containing Polymers for Effective Space Shielding