

Chem 291 – Chemistry Graduate Seminar I  
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MS Chemistry I

## **Synthesizing**

## **OUTLINE: GREEN CHEMISTRY**

### **I. INTRODUCTION**

### **II. NATURAL PHOTOSYNTHESIS**

- A. Light Harvesting
- B. Charge Separation
- C. Electron transfer

### **III. CURRENT TYPES OF SOLAR PANELS**

- A. Semiconductors
  - 1. Silicon based
  - 2. Dye-sensitized
  - 3. Others
- B. Organic solar panels
  - 1. Semiconductor-like polymers

### **IV. PROBLEMS OF MIMICKING ARTIFICIAL PHOTOSYNTHESIS**

### **V. METHODS FOR BIOMIMETRY**

- A. Experimental Methods
- B. Quantum-mechanical/Molecular-mechanical(QM/MM) Simulations

### **VI. RECENT DEVELOPMENTS IN ARTIFICIAL PHOTOSYNTHESIS**

### **VII. CONCLUSION**