

BIOL 221 - Photosynthesis Outline

**Topic 07 – Photosynthesis**

- 1) Hoefnagels Chap. 5 (review of Photosynthesis), Chap 19 (p. 384, What are Biofuels?)
- 2) The relevant chapter on Photosynthesis in your lab manual.

**I. Introduction**

- A. Summary Eqn
- B. Destiny of Carbohydrates
- C. Light & Pigments
  1. Electromagnetic Spectrum
  2. Which Pigments are Important?

**II. Process Review**

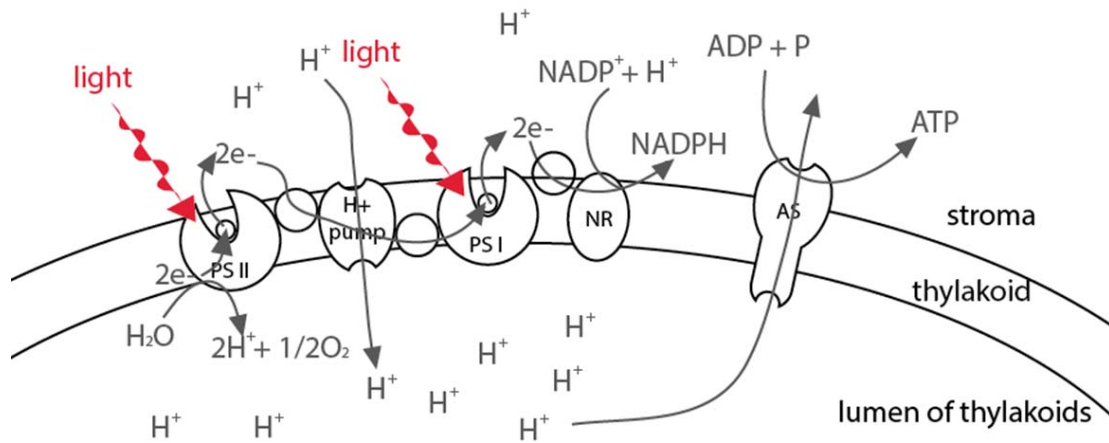
- A. Where?
- B. Light Reactions
- C. Calvin Cycle

**III. Areas of Active Applied Research Directly or Indirectly Related to Photosynthesis**

- A. Feeding a Hungry World
- B. Mitigation of Climate Change

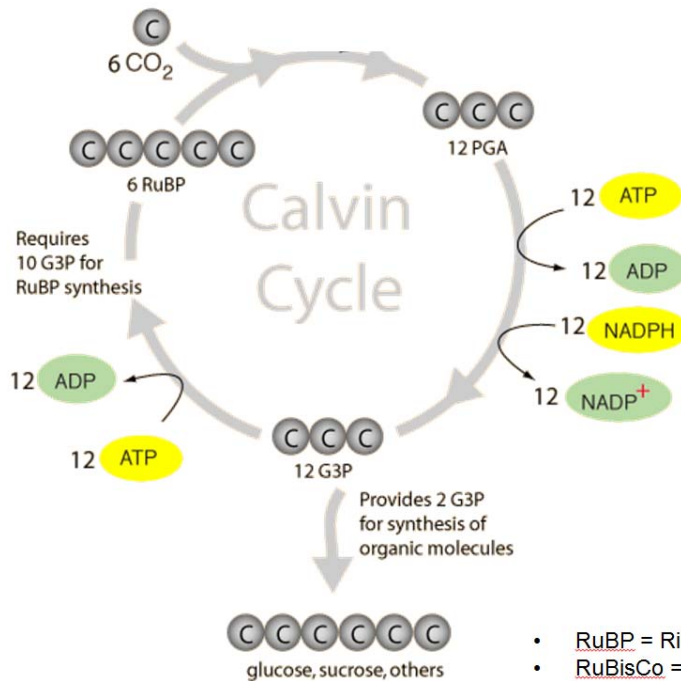
## Photosynthesis Review

### Light Reactions



NR = NADP reductase  
 NADP+ = Nicotinamide adenine dinucleotide phosphate  
 NADPH = reduced form of NADP+

### Calvin Cycle (Light-independent Reactions)



- RuBP = Ribulose 1,5-bisphosphate
- RuBisCo = Ribulose-1,5-bisphosphate Carboxylase/Oxygenase
- PGA = phosphoglyceric acid
- G3P = phosphoglyceraldehyde