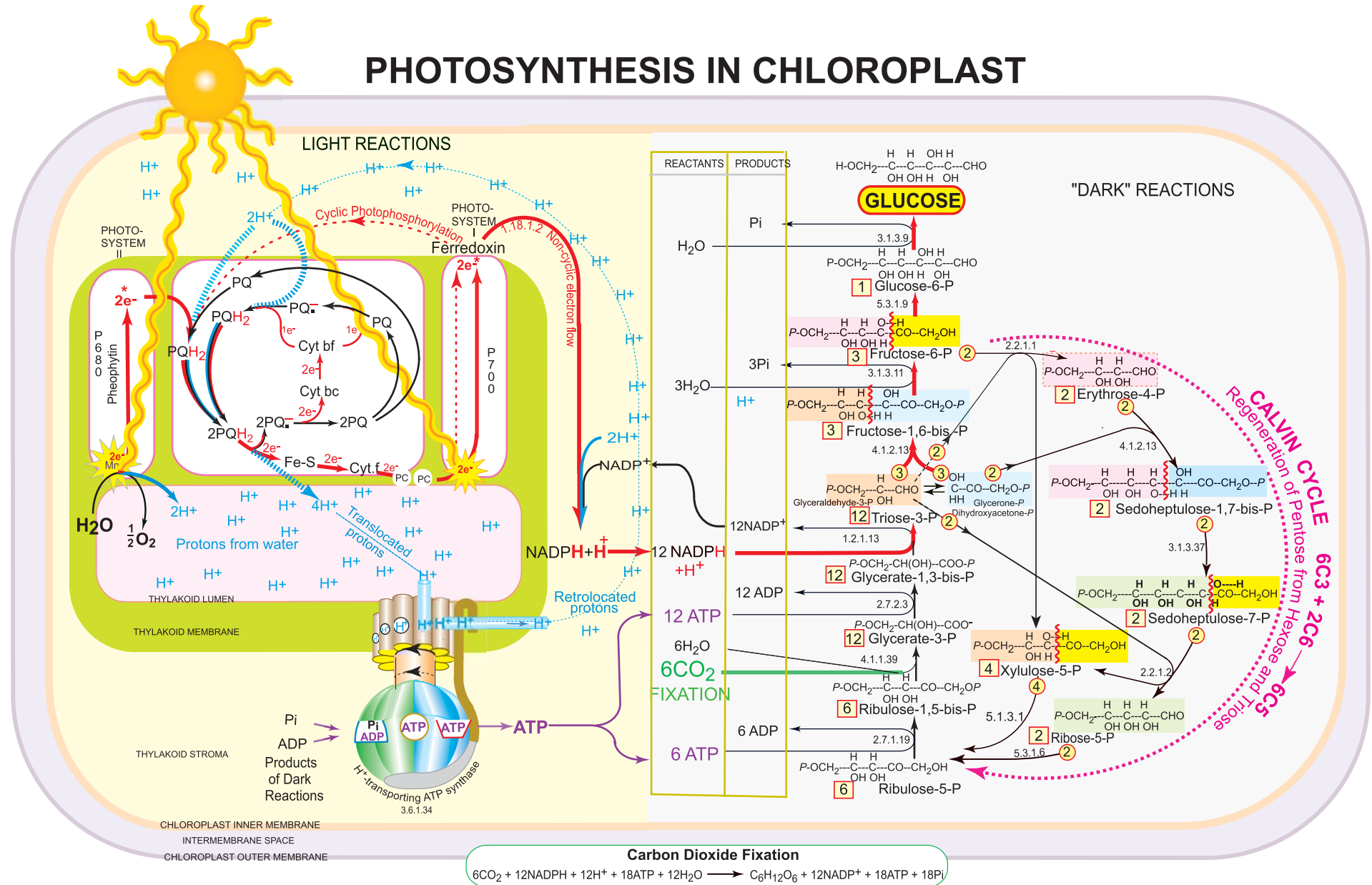


# PHOTOSYNTHESIS IN CHLOROPLAST



- **LIGHT-DRIVEN ELECTRON FLOW** (electric current) from H<sub>2</sub>O to NADP<sup>+</sup> and thence to Glucose (and starch)
- Reduced NADP inhibits **Ferredoxin-NADPH reductase (1.18.1.2)** and thus initiates
- **CYCLIC PHOTOPHOSPHORYLATION** - a light-driven electron flow that drives
- **PROTON TRANSLLOCATION** from stroma to lumen. These protons, together with those from water produce a pH gradient that drives ATP synthase to form ATP
- PQ Plastoquinone QH<sub>2</sub> Plastoquinol PC Plastocyanin High-energy electrons e<sup>-</sup>

ENZYMES			
1.2.1.13	Glyceraldehyde-3-P dehydrogenase	2.7.1.19	Phosphoribulokinase
1.18.1.2	Ferredoxin-NADPH <sup>+</sup> reductase	2.7.2.3	Phosphoglycerate kinase
2.2.1.1	Glycolaldehydetransferase (Transketolase)	3.1.3.9	Glucose-6-phosphatase
		3.1.3.11	Fructose-bis-phosphatase
		3.1.3.37	Sedoheptulose-bis-phosphatase
2.2.1.2	Dihydroxyacetonetransferase (Transaldolase)	3.6.1.34	ATP synthase
		4.1.1.39	Ribulose-bis-P carboxylase
		4.1.2.-	Aldolase
		4.1.2.13	Fructose-bis-P aldolase
		5.1.3.1	Ribulose-P epimerase
		5.3.1.1	Triosephosphate isomerase
		5.3.1.6	Ribose-5-P isomerase
		5.3.1.9	Hexose-P isomerase