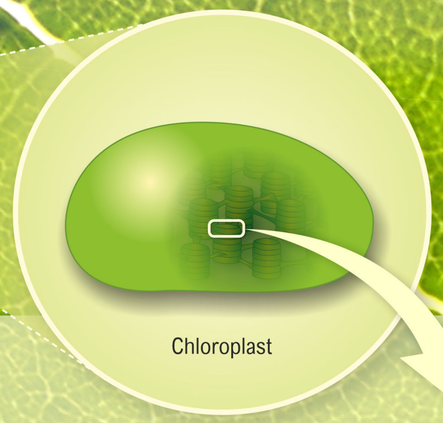
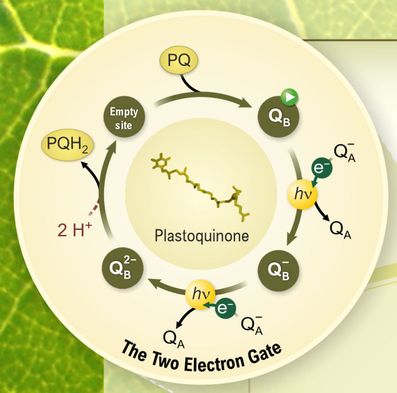
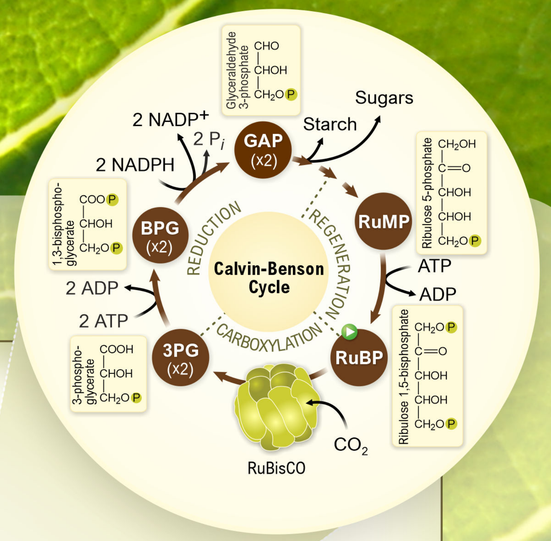
Oxygenic Photosynthesis

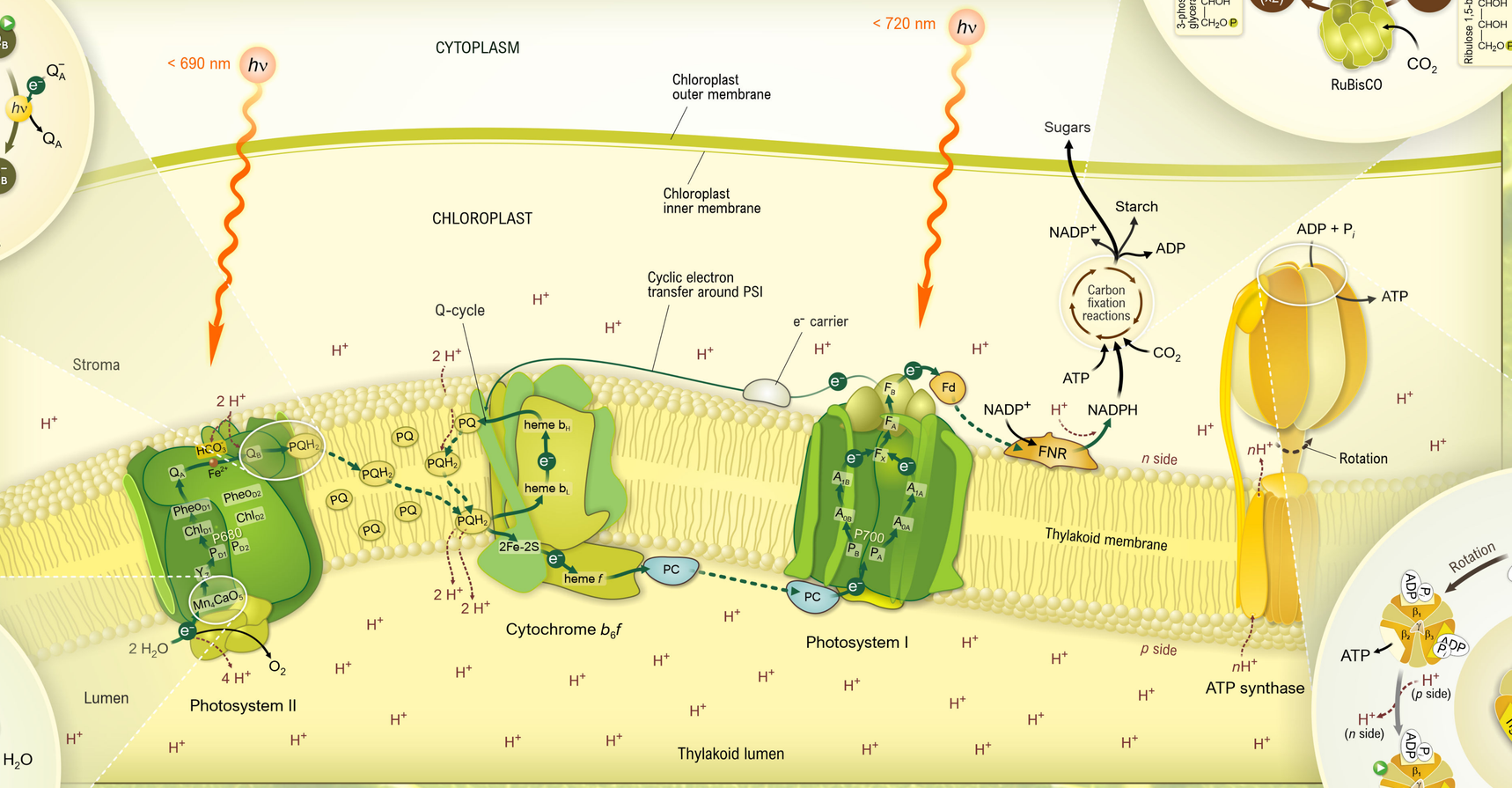
Best wishes for your research
Christiaan

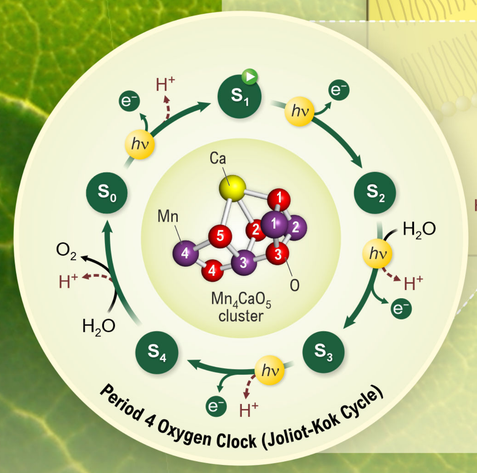


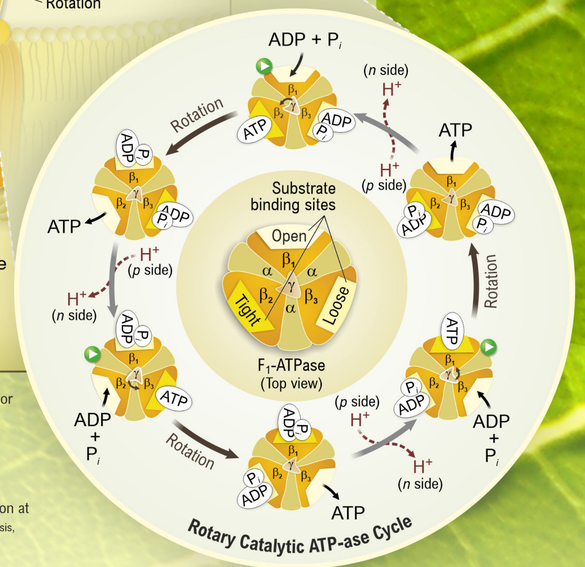
Thylakoid Membrane and Protein Complexes











Oxygenic Photosynthesis Poster: Simplified representation of a thylakoid membrane, photosynthetic protein complexes and redox cofactors involved in the electron and the proton transport reactions of photsynthesis in plants. For an overview on oxygenic photosynthesis, see books [1-3]. Send comments to Govindjee Govindjee (gov@illinois.edu) or to Dmitry Shevela (info@scigrafik.se). **Abbreviations:** ADP, adenosine diphosphate; ATP, adenosine triphosphate; Fd, ferredoxin; FNR, ferredoxin-NADP oxidoreductase; PQ, mobile plastoquinone; PQH_2, reduced form of plastoquinone; PC, plastocyanin, a mobile copper protein; NADP⁺/NADPH, nicotinamide adenine dinucleotide phosphate (oxidized/reduced forms). **Notes:** The above representation of photosynthetic complexes is not meant to imply that these complexes are necessarily in 1:1 ratio. Although 3 different cyclic electron pathways, around Photosystem I, are known to exist, we show here only one of them, which involves one or more proteins. The Calvin-Benson Cycle, shown here, is for C3 plants. The structure of the Mn_4CaO_5 cluster was generated using coordinates from the PDB entry 6w1o. **Acknowledgements:** We thank Wilbert Veit for his generosity in producing and distributing, for several years, Z-scheme diagrams of photosynthesis (http://www.life.illinois.edu/govindjee/Z-Scheme.html), Joanna Porankiewicz-Asplund for the background leaf, and Natalia Voronkina for the picture of the cells shown here. We are highly grateful to Agrisera for sponsoring the poster updates, printing, and free distribution at conferences around the world. **Citation:** Shevela D, Govindjee G (2016) Oxygenic Photosynthesis, *Agrisera Educational Poster* 1: doi:10.6084/m9.figshare.24039480. **References:** [1] Blankenship RE (2021) Molecular Mechanisms of Photosynthesis, 3rd Edition, Wiley; [2] Shevela D, Björn LO, Govindjee G (2018) Photosynthesis: Solar Energy for Life. World Scientific Publishing; [3] Barber J, Ruban AV (Eds) (2017) Photosynthesis and Bioenergetics. World Scientific Publishing.

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