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CRYSTALLIZATION OF PHOTOSYSTEM II FROM *N. TABACUM*

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Photosystem II core complex, Higher plants, Nicotiana tabacum, 3D crystallization

Water-splitting photosynthesis also known as oxygenic photosynthesis is a process whereby light energy is converted to chemical energy in membrane-bound pigment protein complexes located in the thylakoid membranes of higher plants and algae. Photosystem II (PSII) is one of the membrane protein complex involved in the photosynthetic process and it is characterized by a dual function: the capture of the light and the splitting of the water molecule. More in detail, PSII uses the electrons delivered during the water splitting for storing in a form of chemical energy the light energy absorbed from the protein complexes associated pigments. As a secondary product the atomic oxygen, produced from the splitting of the water, is converted to molecular oxygen and delivered to the atmosphere. Several structural and functional features of this pigment protein complex from higher plants are not completely understood. In order to address several questions, related with the function and the structure of PSII from higher plants, a fast and stable protocol of purification was developed and also a protocol of crystallization of PSII has been created. At moment the quality of the crystals needs to be improved in order to get them suitable for definitive structural and functional studies.