

A Study on the Heterogeneity of the Light-Harvesting Complex II from *Ectothiorhodospira sp.* after Acid/Chaotropic Treatment

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The light-harvesting complex II of the purple bacteria has two strong near infrared electronic absorption bands, around 800 (B800) and 850 (B850) nm, arising from the Q_y transitions of bacteriochlorophyll *a*. It was previously reported that under some specific acid/chaotropic conditions the B850 bacteriochlorophylls of the light-harvesting complex II of *Ectothiorhodospira sp.* are strongly reorganised. Part of these pigments absorbs at 843 nm while another set absorbs around 858 nm. The current work should investigate whether a mix of two different complexes could generate the 843- and 858-nm bands. Acid/chaotropic conditions inducing the reorganisation of B850 were reproduced on a sample bound to an ionic-exchange column. The chromatographic pattern was found strongly homogeneous. The findings indicate that the heterogeneity of the reorganised B850 results from two forms of differently structured bacteriochlorophylls bound to the same polypeptide backbone.