



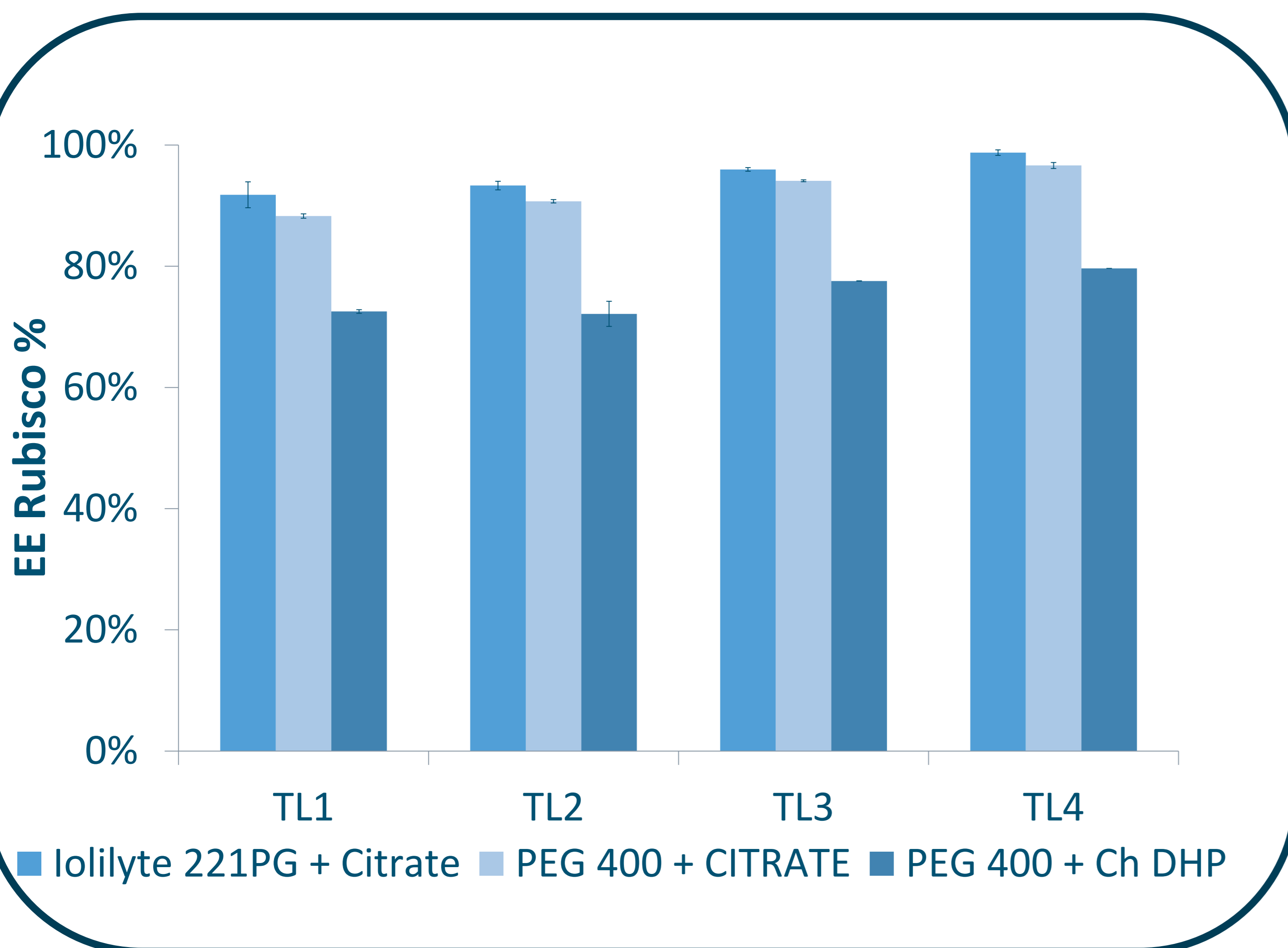
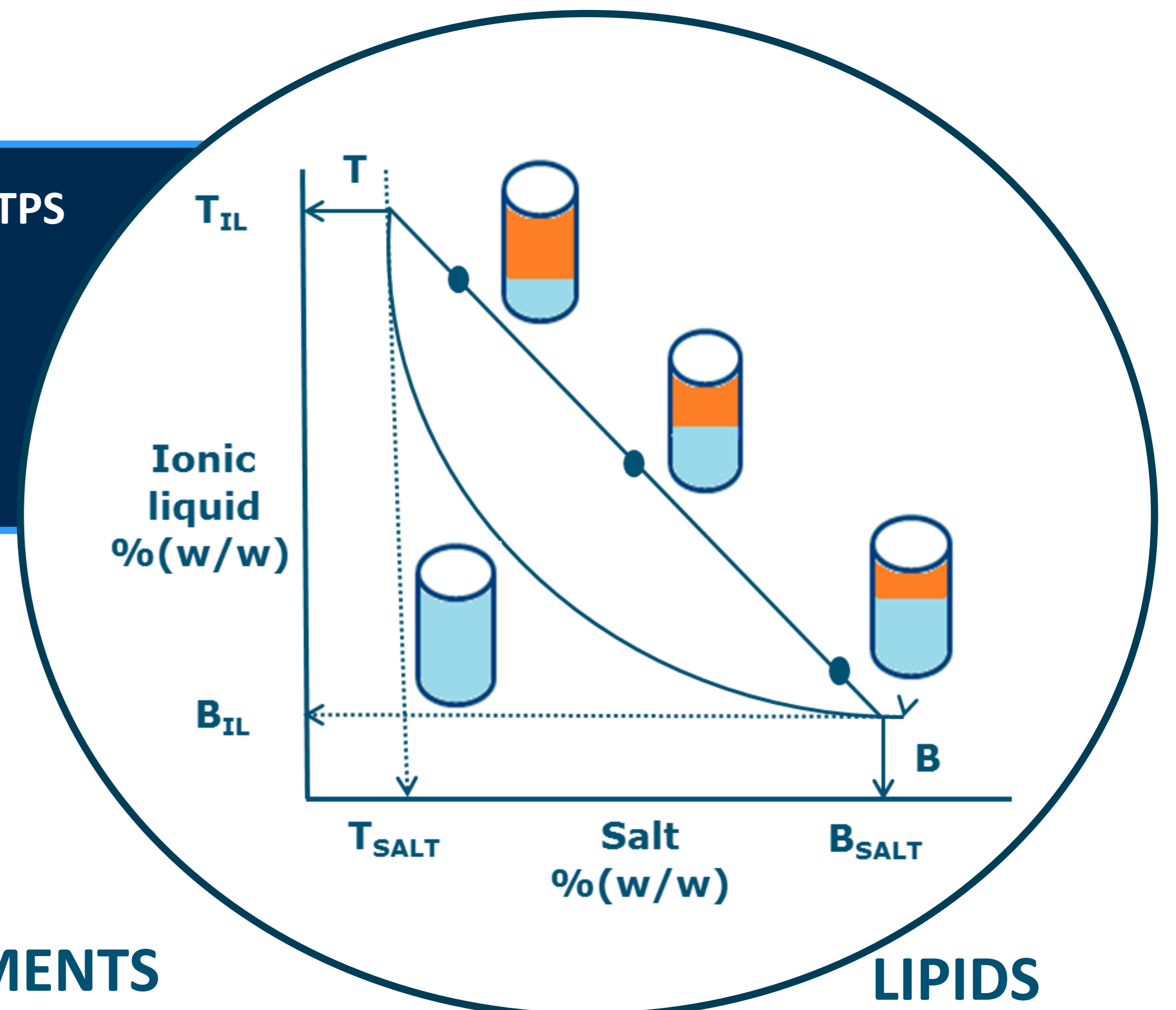
Mild extraction of microalgae components using Aqueous two-phase systems

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Moving from 'destruction' towards 'disentanglement' for better biorefinery of microalgae

Objectives

- ➔ To characterize and evaluate the potential of ionic liquid-based ATPS concerning their application in microalgae biorefinery.
- ➔ To investigate the extraction efficiency of Rubisco (Ribulose-1,5-biphosphate carboxylase/oxygenase) in the ATPS.



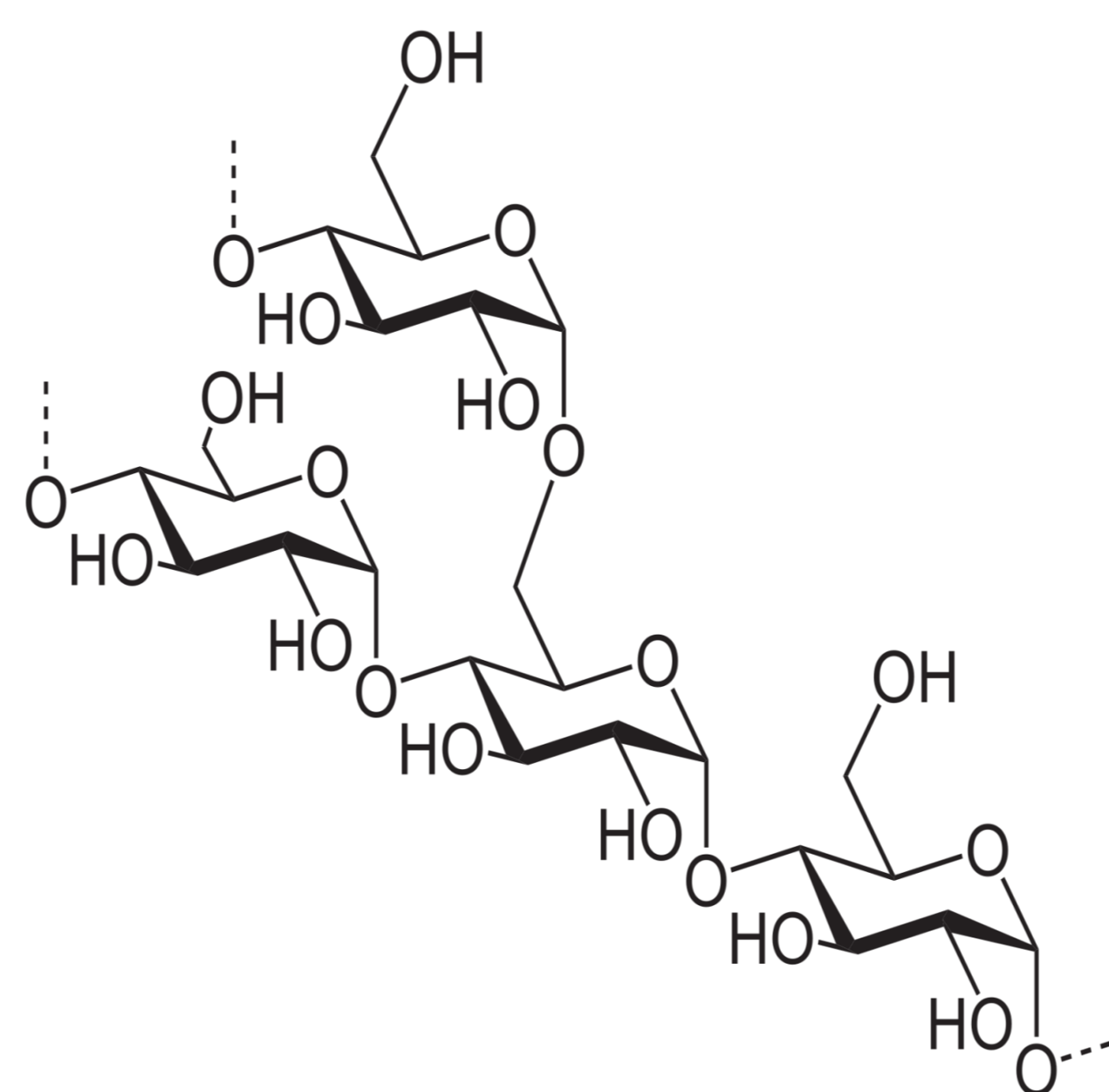
PIGMENTS



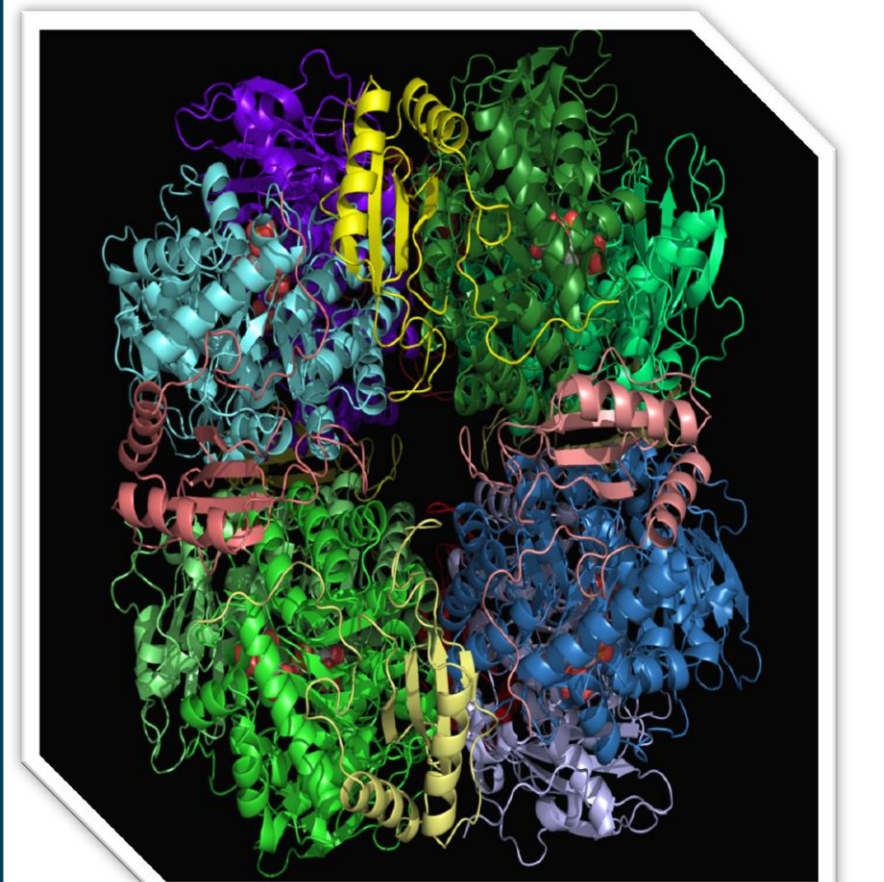
LIPIDS



SUGARS



PROTEINS



Conclusions

- The general applicability of 3 ATPS investigated has been proven and characterized. Temperature and phase separation time are important parameters for a scale up design of the process.
- lolilyte 221PG-Citrate system has the highest ATPS formation ability and results the most efficient in Rubisco extraction.
- Experimental results show that 80% - 100% of proteins could be extracted in a single-step extraction.

Acknowledgements

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