A SMALL ANGLE SCATTERING STUDY OF POLYSACCHARIDES WITH ANTIOXIDANT ACTIVITY

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Amongst the most common functional ingredients of different food colloids and emulsion formulations are polysaccharides. These natural polymers possess the ability to impact the product shelf life, food texture and colloidal stability, and therefore are regarded constantly for new food formulation developments. The wide range of applications of polysaccharides will primarily depend on their properties in solutions, the conformation stability, aggregation and gelation behaviour. And, although there is a vast advancement made in the recent years in understanding the physicochemical properties of polysaccharides and how to explore these into food hydrocolloid formulations, the topics continue to be challenging.

Small-angle scattering techniques are powerful, non-invasive experimental tools that provide information about the structure and conformation of macromolecules in solution. Previously, small-angle scattering was used successfully for characterizing the structural features of milk proteins in solutions under *in situ* conditions [1-3]. This study reports the results of investigation of the aggregation and gelation behaviour of several polysaccharides possessing antioxidant activity by using small-angle scattering methods.

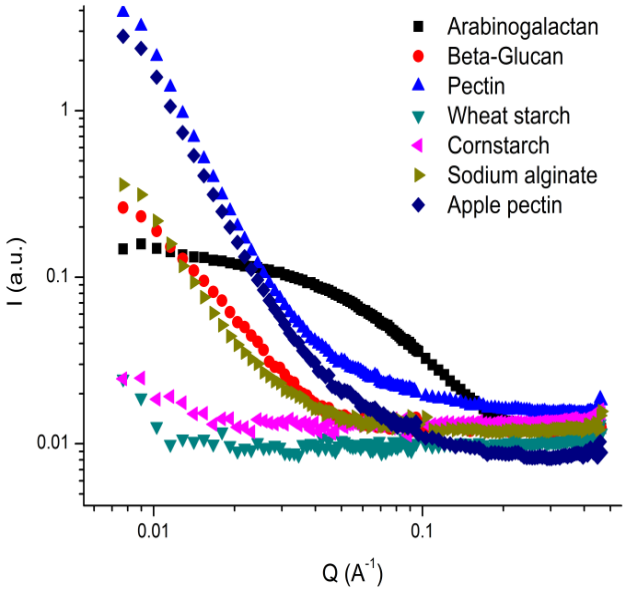

Figure 1. *Small-angle neutron scattering profile demonstrating the structural difference of the studied polysaccharides in solutions prepared under the same conditions. The experimental data were obtained on the KWS-2 small-angle neutron scattering diffractometer.*

References

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