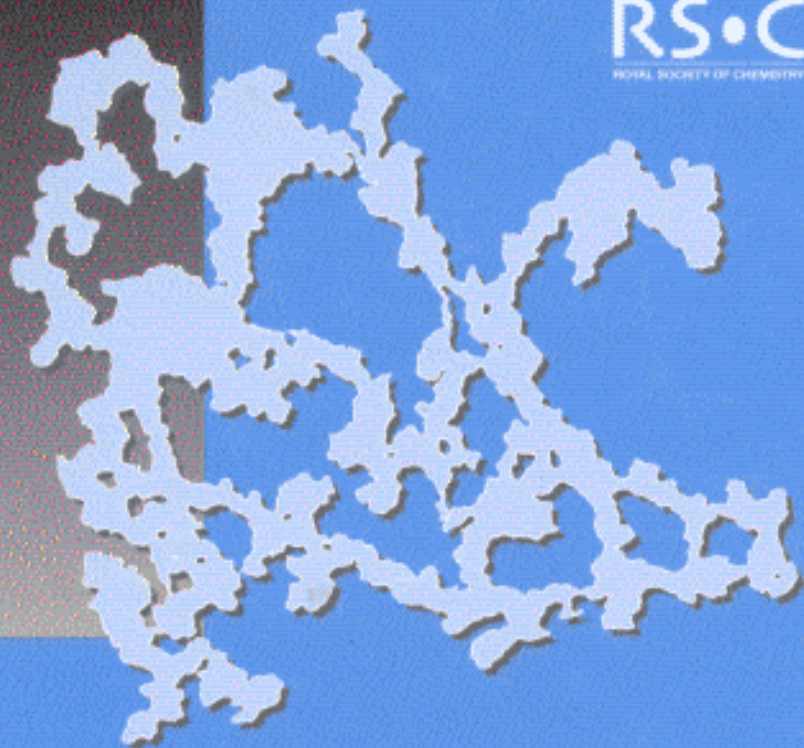


RS·C
ROYAL SOCIETY OF CHEMISTRY



Food Colloids
FUNDAMENTALS OF FORMULATION



edited by ERIC DICKINSON
and REINHARD MILLER

Contents

New Techniques

- Surface Quasi-Elastic Light Scattering: A Probe of Interfacial Rheology 3
I. Hopkinson
- Scratching the Surface: Imaging Interfacial Structure using Atomic Force Microscopy 13
A. R. Mackie, A. P. Gunning, P. J. Wilde, and V. J. Morris
- Application of Brewster Angle Microscopy to the Analysis of Proteins and Lipids at the Air–Water Interface 22
J. M. Rodríguez Patino, C. Carrera Sánchez, M. R. Rodríguez Niño, and M. C. Fernández
- Dynamic Interactions between Adsorbed Protein Layers from Colloidal Particle Scattering in Shear Flow 36
E. Dickinson, B. S. Murray, M. Whittle, and J. Chen

Emulsions, Dispersions and Foams

- Foams and Antifoams 55
P. R. Garrett
- Stability of Oil-in-Water Emulsions Containing Protein 73
I. B. Ivanov, E. S. Basheva, T. D. Gurkov, A. D. Hadjiiski, L. N. Arnaudov, N. D. Vassileva, S. S. Tcholakova, and B. E. Campbell
- Stabilization of Emulsion Films and Emulsions by Surfactant–Polyelectrolyte Complexes 91
V. G. Babak
- Colloidal Dispersions Based on Solid Lipids 103
K. Westesen, M. Drechsler, and H. Bunjes

Coalescence Processes in Emulsions <i>T. Danner and H. Schubert</i>	116
Mechanisms of Coalescence in Highly Concentrated Protein-Stabilized Emulsions <i>G. A. van Aken and T. van Vliet</i>	125
Water-in-Oil-in-Water Multiple Emulsions Stabilized by Polymeric and Natural Emulsifiers <i>M. Akhtar and E. Dickinson</i>	133
Creaming and Rheology of Oil-in-Water Emulsions <i>M. Robins, P. Manoj, D. Hibberd, A. Watson, and A. Fillery-Travis</i>	144
Crystallization in Food Emulsions <i>M. J. W. Povey, S. A. Hindle, and K. W. Smith</i>	152
Interfacial Properties	
Molecular Basis of Protein Adsorption at Fluid-Fluid Interfaces <i>S. Damodaran and C. S. Rao</i>	165
Dilational and Shear Rheology of Protein Layers at the Water-Air Interface <i>T. D. Gurkov, J. T. Petkov, B. Campbell, and R. P. Borwankar</i>	181
Dilational Viscoelasticity of Spread and Adsorbed Polymer Films <i>B. A. Noskov, A. V. Akientiev, D. A. Alexandrov, G. Loglio, and R. Miller</i>	191
Influence of Lipids on Interfacial Dilatational Behaviour of Adsorbed β -Lactoglobulin Layers <i>R. Wüstneck, B. Moser, V. V. Karageorgieva, G. Muschiolik, and L. Brehmer</i>	198
Theory of Protein Penetration into Two-Dimensional Aggregating Lipid Monolayers <i>V. B. Fainerman, R. Miller, and D. Vollhardt</i>	210
Surface Rheological Properties of Soy Glycinin: Gel Layer Formation and Conformational Aspects <i>M. Bos, A. Martin, J. Bikker, and T. van Vliet</i>	223
Effect of Starch Components and Derivatives on the Surface Behaviour of a Mixture of Protein and Small-Molecule Surfactants <i>M. G. Semenova, M. S. Myasoedova, and A. S. Antipova</i>	233

Protein Structure and Interactions

Effects of Agitation on Proteins <i>P. Walstra</i>	245
Spectroscopic Investigation of Proteins at Oil–Water Interfaces <i>G. R. Burnett, F. A. Husband, P. J. Wilde, N. Wellner, and P. S. Belton</i>	255
Functional Properties of Peptides Derived from Wheat Storage Proteins by Limited Enzymatic Hydrolysis and Ultrafiltration <i>C. Larré, B. Huchet, S. Bérot, and Y. Popineau</i>	262
Effects of Sugars in Protecting the Functional Properties of Dried Proteins <i>B. S. Murray, H.-J. Liang, S. Bone, and E. C. López-Díez</i>	272
Binding Properties of Vanillin to Whey Proteins: Effect on Protein Conformational Stability and Foaming Properties <i>P. Relkin and J. Vermersh</i>	282
Complex Formation of Faba Bean Legumin with Chitosan: Surface Activity and Emulsion Properties of Complexes <i>I. G. Plashchina, T. A. Mrachkovskaya, A. N. Danilenko, G. O. Kozhevnikov, N. Yu. Starodubrovskaya, E. E. Braudo, and K. D. Schwenke</i>	293
Effect of Polysaccharides on Colloidal Stability in Dairy Systems <i>J.-L. Doublier, S. Bourriot, and C. Garnier</i>	304
Influence of High Pressure Processing on Protein–Polysaccharide Interactions in Emulsions <i>V. B. Galazka, E. Dickinson, and D. A. Ledward</i>	315
Structural Modification of β -Lactoglobulin as Induced by Complex Coacervation with Acacia Gum <i>C. Schmitt, C. Sanchez, S. Despond, D. Renard, P. Robert, and J. Hardy</i>	323
Effect of Heat and Shear on β -Lactoglobulin–Acacia Gum Complex Coacervation <i>C. Sanchez, S. Despond, C. Schmitt, and J. Hardy</i>	332

Aggregation and Gelation

Factors Influencing Acid-Induced Gelation of Skim Milk <i>D. S. Horne</i>	345
--	-----

Enzymic Crosslinking for Producing Casein Gels <i>C. Schorsch, M. G. Jones, and I. T. Norton</i>	352
Aggregation and Gelation of Whey Proteins: Specific Effect of Divalent Cations? <i>S. P. F. M. Roefs and H. A. Peppelman</i>	358
Effect of Emulsifiers on the Aggregation of β-Lactoglobulin <i>M. Langton and A.-M. Hermansson</i>	369
Bulk and Interfacial Sol-Gel Transitions in Systems Containing Gelatin <i>V. N. Izmailova, G. P. Yampolskaya, S. M. Levachev, S. R. Derkatch, Z. D. Tulovskaya, and N. G. Voronko</i>	376
Protein-Based Emulsion Gels: Effects of Interfacial Properties and Temperature <i>J. Chen, E. Dickinson, H. S. Lee, and W. P. Lee</i>	384
Mixed Biopolymer Gel Systems of β-Lactoglobulin and Non-Gelling Gums <i>R. Baeza and A. M. R. Pilosof</i>	392
Stability and Gelation of Carrageenan + Skim Milk Mixtures: Influence of Temperature and Carrageenan Type <i>V. Langendorff, G. Cuvelier, C. Michon, B. Launay, A. Parker, and C. G. de Kruif</i>	404
Subject Index	413