PUBLICATIONS – Bernard P. Binks

Edited Books/Special Volume


Review Articles


Patents

12. “Non-aqueous solid stabilized emulsions”.

13. “Multi-component encapsulated reactive formulations”.
P.B. Grashcia, J.D. Hines and B.P. Binks.

14. “Edible foamable compositions comprising calcium carbonate”.

15. “Whipped oily composition and production method thereof”.

16. “Emulsions stabilised by whey protein microgels”.

17. “Emulsifier system”.

18. “Emulsions and method for manufacturing emulsions”.
B.P. Binks, M. Nakajima and Q. Xu.
JP 4131676 assigned to National Food Research Institute Tsukuba, June 2008.

19. “Particle-stabilised emulsions”.

20. “Water-wettable silylated metal oxides”.

21. “Particulate emulsifiers, emulsions and uses thereof”.
GB 2003/0009931 assigned to Universities of Hull and Sussex, April 2003.

22. “Multiple emulsions”.
H. Barthel, B.P. Binks, A. Dyab and P. Fletcher.

23. “Dispersions and process for making them”.
B.P. Binks and J. Dong.
Journal Papers

24. “Effect of particle wettability on the evaporation of droplets of aqueous particle dispersions”.

25. “van der Waals emulsions”.

26. “Particle-stabilised double oil-in-oil-in-oil emulsions”.

27. “Spectrophotometry of thin films of light absorbing particles”.

28. “Smart worm-like micelles responsive to CO₂/N₂ and light dual stimuli”.


30. “Combinatorial microfluidic droplet engineering for biomimetic material synthesis”.

31. “Pickering emulsions stabilized by coloured organic pigment particles”.

32. “Hyper sweat and sebum repellent powder cosmetics”.

33. “pH-responsive Pickering emulsions stabilized by silica nanoparticles in combination with a conventional zwitterionic surfactant”.

34. “Food-grade Pickering stabilisation of foams by *in situ* hydrophobization of calcium carbonate particles”.
35. “Novel stabilisation of emulsions by soft particles: polyelectrolyte complexes”.

36. “Coalescence of electrically charged liquid marbles”.

37. “Pickering emulsions responsive to CO$_2$/N$_2$ and light dual stimuli at ambient temperature”.

38. “Evaporation of particle-stabilized emulsion sunscreen films”.

39. “Oil-in-oil emulsions stabilised solely by solid particles”.

40. “Particle-stabilized powdered water-in-oil emulsions”.

*41. “Design of surface-active artificial enzyme particles to stabilize Pickering emulsions for high-performance biphasic biocatalysis”.

42. “Evaporation of sunscreen films: how the UV protection properties change”.

*43. “Whipped oil stabilised by surfactant crystals”.

44. “Pickering emulsions stabilized by hydrophilic nanoparticles: in situ surface modification by oil”.

45. “Compartmentalized droplets for continuous flow liquid-liquid interface catalysis”.

46. “Switchable opening and closing of a liquid marble via ultrasonic levitation”.
47. “Responsive aqueous foams stabilised by silica nanoparticles hydrophobised in situ with a conventional surfactant”.

48. “Mechanical compression to characterize the robustness of liquid marbles”.

49. “pH-responsive gas-water-solid interface for multiphase catalysis”.

50. “Stabilisation of Pickering emulsions with oppositely charged latex particles: influence of various parameters and particle arrangement around droplets”.

51. “Particles at oil-air surfaces: powdered oil, liquid oil marbles and oil foam”.

52. “Self-propulsion of liquid marbles: Leidenfrost-like levitation driven by Marangoni flow”.

53. “Switchable Pickering emulsions stabilized by silica nanoparticles hydrophobized in situ with a conventional cationic surfactant”.

54. “Compartmentalization of incompatible reagents within Pickering emulsion droplets for one-pot cascade reactions”.

55. “Dispersion behaviour and aqueous foams in mixtures of a vesicle-forming surfactant and edible nanoparticles”.

56. “CO₂ capture by dry alkanolamines and an efficient microwave regeneration process”.


67. “Effect of particle hydrophobicity on the properties of liquid water marbles”.

68. “Direct measurement of contact angles of silica particles in relation to double inversion of Pickering emulsions”.

69. “Electrostatically gated membrane permeability in inorganic protocells”.
M. Li, R.L. Harbron, J.V.M. Weaver, B.P. Binks and S. Mann. 

70. “Influence of propylene glycol on aqueous silica dispersions and particle-stabilized emulsions”.

71. “Effect of trace impurities in triglyceride oils on phase inversion of Pickering emulsions stabilized by CaCO₃ nanoparticles”.

72. “Influence of the degree of fluorination on the behaviour of silica particles at air-oil surfaces”.
B.P. Binks and A.T. Tyowua. 

73. “Surfactant properties of alkylbenzyldimethylammonium chloride oilfield corrosion inhibitors”.

74. “Bidirectional nanoparticle crossing of oil-water interfaces induced by different stimuli: insight into phase transfer”.
A. Stocco, M. Chanana, G. Su, P. Cernoch, B.P. Binks and D. Wang. 

75. “Oil powders and gels from particle-stabilized emulsions”.
H. Adelmann, B.P. Binks and R. Mezzenga. 

76. “How membrane permeation is affected by donor delivery solvent”.
77. “Pickering emulsions stabilized by surface-modified Fe₃O₄ nanoparticles”.

78. “Cellular ceramics from emulsified suspensions of mixed particles”.

*79. “Particle stabilization of oil-in-water-in-air materials: powdered emulsions”.

80. “Multiple phase inversion of emulsions stabilized by *in situ* surface activation of CaCO₃ nanoparticles via adsorption of fatty acids”.
Z-G. Cui, C-F. Cui, Y. Zhu and B.P. Binks.

81. “Membrane permeation of testosterone from either solutions, particle dispersions or particle-stabilised emulsions”.

82. “Sequestration of edible oil from emulsions using new single and double layered microcapsules from plant spores”.

83. “Magnetorheological behaviour of Pickering emulsions stabilized by surface-modified Fe₃O₄ nanoparticles”.

84. “Quantitative prediction of the reduction of corrosion inhibition effectiveness due to parasitic adsorption onto a competitor surface”.

85. “Oil foams stabilised solely by particles”.
B.P. Binks, A. Rocher and M. Kirkland.

86. “Magnetic Pickering emulsions stabilized by Fe₃O₄ nanoparticles”.
87. “Influence of the contact angle of silica nanoparticles at the air-water interface on the mechanical properties of the layers composed of these particles”.

88. “Liquid marbles stabilized by graphite particles from aqueous surfactant solutions”.

89. “Inversion of particle-stabilised emulsions of partially miscible liquids by mild drying of modified silica particles”.

90. “Sporopollenin capsules at fluid interfaces: particle-stabilised emulsions and liquid marbles”.

91. “Aqueous foams stabilized solely by particles”.
A. Stocco, E. Rio, B.P. Binks and D. Langevin.

92. “In vitro gene expression and enzyme catalysis in bio-inorganic protocells”.
M. Li, D.C. Green, J.L. Ross Anderson, B.P. Binks and S. Mann.

93. “Effect of added diols (glycols) on the emulsion properties of oil, water and surfactant mixtures”.

94. “Effects of surfactant structure on double phase inversion of emulsions stabilised by mixtures of silica nanoparticles and cationic surfactant”.

95. “Inversion of ‘dry water’ to aqueous foam on addition of surfactant”.

96. “Shearing particle monolayers: strain-rate frequency superposition”.
D. Zang, D. Langevin, B.P. Binks and B. Wei.


108. “A microfluidic approach to chemically driven assembly of colloidal particles at gas-liquid interfaces”.

109. “Effects of temperature on water-in-oil emulsions stabilised solely by wax microparticles”.
B.P. Binks and A. Rocher.

110. “Influence of surfactant structure on the double inversion of emulsions in the presence of nanoparticles”.
B.P. Binks and J.A. Rodrigues.

111. “Particle-stabilised foams: an interfacial study”.

112. “An ellipsometry study of silica nanoparticle layers at the water surface”.
D. Zang, A. Stocco, D. Langevin and B. Wei and B.P. Binks.

113. “Emulsiones estabilizadas por nanopartículas para formulaciones de productos agroquímicos”.

114. “Novel film-calliper method of measuring the contact angle of colloidal particles at liquid interfaces”.

115. “Novel stabilisation of emulsions via the heteroaggregation of nanoparticles”.

116. “On the origin of the remarkable stability of aqueous foams stabilised by nanoparticles: link with microscopic surface properties”.

117. “Double phase inversion of emulsions stabilised by a mixture of CaCO₃ nanoparticles and sodium dodecyl sulphate”.


118. “Origin of stabilisation of aqueous foams in nanoparticle-surfactant mixtures”.

119. “Influence of particle composition and thermal cycling on bijel formation”.

120. “Emulsification of partially miscible liquids using colloidal particles: nonspherical and extended domain structures”.

121. “Synergistic stabilization of emulsions by a mixture of surface-active nanoparticles and surfactant”.

122. “Synergistic interaction in emulsions stabilized by a mixture of silica nanoparticles and cationic surfactant”.

123. “Double inversion of emulsions by using nanoparticles and di-chain surfactant”.

124. “Enhanced stabilization of emulsions due to surfactant-induced nanoparticle floculation”.

125. “Effect of particle hydrophobicity on the properties of silica particle layers at the air-water interface”.

126. “pH-responsive aqueous foams stabilized by ionisable latex particles”.

127. “Effect of pH and salt concentration on the phase inversion of particle-stabilised foams”.
B.P. Binks, B. Duncumb and R. Murakami.  

128. “Contact angles in relation to emulsions stabilised solely by silica nanoparticles including systems containing room temperature ionic liquids”.  

129. “Effect of electrolyte in silicone oil-in-water emulsions stabilised by fumed silica particles”.  

*130. “Particle-stabilized emulsions: a bilayer or a bridging monolayer?”*  
T.S. Horozov and B.P. Binks.  

131. “Optical microscope absorbance imaging of carbon black nanoparticle films at solid and liquid surfaces”.  

132. “Effects of pH and salt concentration on oil-in-water emulsions stabilized solely by nanocomposite microgel particles”.  

133. “Wetting phenomena at the CO$_2$/water/glass interface”.  

134. “Effect of particle hydrophobicity on the formation and collapse of fumed silica particle monolayers at the oil-water interface”.  

135. “Growth of gold nanoparticle films driven by coalescence of particle-stabilized emulsion drops”.  

136. “Stimulus-responsive particulate emulsifiers based on lightly cross-linked poly(4-vinylpyridine)-silica nanocomposite microgels”.  

*137. “Phase inversion of particle-stabilized materials from foams to dry water”*.  
B.P. Binks and R. Murakami.  


149. “Colloid-stabilized emulsions: behaviour as the interfacial tension is reduced”.

150. “Determination of contact angles on microporous particles using the thin-layer wicking technique”.


152. “Naturally occurring spore particles at planar fluid interfaces and in emulsions”.

153. “Silica particle-stabilized emulsions of silicone oil and water: aspects of emulsification”.
B.P. Binks and C.P. Whitby.

154. “Synthesis of sterically-stabilised polystyrene latex particles using cationic block copolymers and macromonomers and their application as stimulus-responsive particulate emulsifiers for oil-in-water emulsions”.

155. “Bridging interaction between a water drop stabilised by solid particles and a planar oil-water interface”.
N.P. Ashby, B.P. Binks and V.N. Paunov.

156. “Evaporation rates of water from concentrated oil-in-water emulsions”.

157. “Stabilization of carbon dioxide-in-water emulsions with silica nanoparticles”.
J.L. Dickson, B.P. Binks and K.P. Johnston.

158. “Steric stabilization of core-shell nanoparticles in liquid carbon dioxide at the vapour pressure”.
159. “Stability of suspensions, emulsions and foams studied by a novel automated analyser”. 
T.S. Horozov and B.P. Binks. 

160. “Formation of giant colloidosomes by transfer of pendant water drops coated with latex particles through an oil-water interface”. 
N.P. Ashby, B.P. Binks and V.N. Paunov. 

*161. “Order-disorder transition in monolayers of modified monodisperse silica particles at the octane-water interface”. 

*162. “Some general features of limited coalescence in solid-stabilized emulsions”. 

163. “Types of phase inversion of silica particle-stabilised emulsions containing triglyceride oils”. 
B.P. Binks and J.A. Rodrigues. 

164. “Phase behaviour of microemulsions stabilised by double chain cationic surfactants and alcohol co-surfactants”. 

165. “Antifoam action of oil vapours”. 
B.P. Binks, P.D.I. Fletcher and M.D. Haynes. 

166. “Outstanding stability of particle-stabilized bubbles”. 

167. “Use of sterically-stabilised polystyrene latex particles as a pH-responsive particulate emulsifier to prepare surfactant-free oil-in-water emulsions”. 

B.P. Binks and C.P. Whitby. 


*179. “Macroporous silica from solid-stabilised emulsion templates”.*
B.P. Binks.

180. “Drag forces on a stationary particle in flowing two-dimensional ordered particle monolayers: simulation and measurement using optical tweezers”.

*181. “Pickering emulsions stabilised by monodisperse latex particles: effect of particle size”.
B.P. Binks and S.O. Lumsdon.

*182. “Particles adsorbed at the oil-water interface: a theoretical comparison between spheres of uniform wettability and “Janus” particles”.
B.P. Binks and P.D.I. Fletcher.

183. “Fluctuation effects on wetting transitions”.
E. Bertrand, D. Bonn, H. Kellay, B.P. Binks and J. Meunier.

184. “Stability of oil-in-water emulsions in a low interfacial tension system”.

*185. “Catastrophic phase inversion of water-in-oil emulsions stabilised by hydrophobic silica”.
B.P. Binks and S.O. Lumsdon.

B.P. Binks and S.O. Lumsdon.

187. “ Effects of oil type and aqueous phase composition on oil-water mixtures containing particles of intermediate hydrophobicity”.
B.P. Binks and S.O. Lumsdon.

*188. “Influence of particle wettability on the type and stability of surfactant-free emulsions”.
B.P. Binks and S.O. Lumsdon.


208. “Temperature insensitive microemulsions”.
B.P. Binks, P.D.I. Fletcher and D.J.F. Taylor. 

209. “Disjoining pressure isotherms for oil-water-oil emulsion films”.

210. “Surfactant properties of semifluorinated alkanes in hydrocarbon and fluorocarbon solvents”.

211. "The effect of temperature on the adsorption of dodecane onto nonionic and ionic surfactant monolayers at the air-water surface".

212. “Displacement of oil by aqueous surfactant solutions from capillaries sealed at one end”.

213. "Investigation of the force-distance relationship for a small liquid drop approaching a liquid-liquid interface".

214. “Structure and composition of dodecane layers spread on aqueous solutions of dodecyl- and hexadecyltrimethylammonium bromides studied by neutron reflection”.

215. “Contact angles and transfer ratios measured during the Langmuir-Blodgett deposition of docosanoic acid onto CdCl₂ subphases”.
R. Aveyard, B.P. Binks, P.D.I. Fletcher and X. Ye. 

216. “Adsorption of semifluorinated alkanes at hydrocarbon-air surfaces”.

218. “Interaction of alkanes with monolayers of nonionic surfactants”.

219. “Effects of mixtures of alkanes on the bending rigidity constant K of
   AOT monolayers at the planar oil-water interface”.
   S. Chaieb, B.P. Binks and J. Meunier.

220. “Measurement of contact angles of spherical monodisperse particles
   with surfactant solutions”.

221. “Aspects of aqueous foam stability in the presence of hydrocarbon oils
   and solid particles”.

222. “Contact angles in relation to the effects of solids on film and foam
   stability”.

223. “Surface chemistry and microemulsion formation in systems
   containing dialkylphthalate esters as oils”.

224. “Adsorption and aggregation of AOT in systems containing toluene
   plus water, 1,3 ethanediol or 1,2,3 propanetriol”.

225. “Relationship between microemulsion phase behaviour and
   macroemulsion type in systems containing nonionic surfactant”.
   B.P. Binks.

226. “Saddle-splay modulus of the AOT monolayer in the system AOT-
   brine-oil”.
   H. Kellay, J. Meunier and B.P. Binks.

227. “Surfactant monolayers at oil-water interfaces”.
   B.P. Binks.
228. “Emulsion type below and above the cmc in AOT microemulsion systems”.
B.P. Binks.

229. “Local properties of an AOT monolayer at the oil-water interface: Neutron scattering”.
*J. de Physique II (France)*, **3**, 1747-1757 (1993).

230. “Entry and spreading of alkane drops at the air-surfactant solution interface in relation to foam and soap film stability”.

231. “Solubilisation of water in alkanes using nonionic surfactants”.
R. Aveyard, B.P. Binks, P.D.I. Fletcher and X. Ye.

232. “Effects of subphase pH on surface pressure-area isotherms and monolayer deposition of preformed polymers with acid and ester hydrophilic groups”.
B.P. Binks, P.D.I. Fletcher, A. Price and P. Hodge.

233. “Comparison of neutron reflection and surface tension measurements of the surface excess of tetracetyldimethylammonium bromide”.

234. “Insoluble monolayers of a preformed polymer containing carboxylic acid hydrophilic groups. Cadmium ion binding to monolayers and ionisation in multilayers”.
B.P. Binks, P.D.I. Fletcher, J.S. Phipps and R.M. Richardson.

235. “Bending elastic modulus of monolayers at oil-water interfaces”.
B.P. Binks, H. Kellay and J. Meunier.

236. “Effects of molecular structure on the stability of insoluble monolayers”.

237. “Dynamic contact angles and deposition efficiency for transfer of docosanoic acid onto mica from CdCl₂ subphases as a function of pH”.
R. Aveyard, B.P. Binks, P.D.I. Fletcher and X. Ye.
238. “Wetting properties of n-alkanes on AOT monolayers at the brine-air interface”.
H. Kellay, J. Meunier and B.P. Binks.

239. “The structure and composition of dodecane layers spread on aqueous solutions of tetradeyltrimethylammonium bromide: neutron reflection and surface tension data”.
J.R. Lu, R.K. Thomas, R. Aveyard, B.P. Binks, P. Cooper, P.D.I. Fletcher, A.
Sokolowski and J. Penfold.

240. “Coalescence of single drops with planar oil-water interfaces in relation to emulsion stability”.
R. Aveyard, B.P. Binks, P.D.I. Fletcher and X. Ye.

241. “Winsor transitions and interfacial film compositions in systems containing sodium dodecylbenzene sulphonate and alkanols”.


243. “Surface chemistry and microemulsion formation in oil-water systems containing sodium tri-n-alkylsulphotricarballylates”.

244. “Effects of subphase pH on the successive deposition of monolayers of docosanoic acid onto mica”.
R. Aveyard, B.P. Binks and P.D.I. Fletcher.

245. “Effects of alkane chain length on the bending elasticity constant K of AOT monolayers at the planar oil-water interface”.
B.P. Binks, H. Kellay and J. Meunier.

246. “Effect of microemulsified surfactant in destabilising water-in-oil emulsions containing C_{12}E_4”.
B.P. Binks, P.D.I. Fletcher and D.I. Horsup.
247. “Cloud points, solubilisation and interfacial tensions in systems containing nonionic surfactants”.
R. Aveyard, B.P. Binks, S. Clark and P.D.I. Fletcher.


249. “Mixing of oils with surfactant monolayers”.
R. Aveyard, B.P. Binks, P. Cooper and P.D.I. Fletcher.

250. “Effects of temperature on the partitioning and adsorption of C_{12}E_{5} in heptane-water mixtures”.
R. Aveyard, B.P. Binks, S. Clark and P.D.I. Fletcher.

251. “Incorporation of hydrocarbons into surfactant monolayers”.
R. Aveyard, B.P. Binks, P. Cooper and P.D.I. Fletcher.

252. “The resolution of water-in-crude oil emulsions by the addition of low molar mass demulsifiers”.
R. Aveyard, B.P. Binks, P.D.I. Fletcher and J-R. Lu.

253. “Measurement of film rigidity and interfacial tensions in several ionic surfactant-oil-water microemulsion systems”.
B.P. Binks, J. Meunier, O. Abillon and D. Langevin.

254. “Structural parameters of the myelin transmembrane proteolipid in reverse micelles”.

255. “Interfacial tensions and aggregate structure in C_{12}E_{4}/oil/water microemulsion systems”.
R. Aveyard, B.P. Binks and P.D.I. Fletcher.

256. “Measurement of the bending elasticity of a monolayer: ellipsometry & reflectivity”.
J. Meunier and B.P. Binks.
257. “Aggregation and adsorption behavior in nonionic surfactant/oil/water systems”.
R. Aveyard, B.P. Binks, S. Clark and P.D.I. Fletcher.

258. “Characteristic sizes, film rigidity and interfacial tensions in microemulsion systems”.
B.P. Binks, J. Meunier and D. Langevin.

259. “Interfacial tensions and microemulsion formation in heptane-aqueous NaCl systems containing Aerosol OT and sodium dodecyl sulphate”.

260. “Nature of the oil-water interface and equilibrium surfactant aggregates in systems exhibiting low tensions”.
R. Aveyard, B.P. Binks, T.A. Lawless and J. Mead.

261. “Winsor microemulsions with cationic surfactants : Structure”.

262. “Relationship between surfactant film bending elasticity and structure and interfacial tensions in microemulsion systems”.
O. Abillon, B.P. Binks, D. Langevin and J. Meunier.

263. “Interfacial tension minima in oil+water+surfactant systems. Effects of cosurfactant in systems containing sodium dodecyl sulphate”.
R. Aveyard, B.P. Binks and J. Mead.

*264. “Interfacial tension minima in oil+water+surfactant systems. Behaviour of alkane-aqueous NaCl systems containing AOT”.
R. Aveyard, B.P. Binks, S. Clark and J. Mead.

265. “Interfacial tension minima in oil+water+surfactant systems. Effects of alkane chain length and presence of n-alkanols in systems containing Aerosol OT”.
R. Aveyard, B.P. Binks and J. Mead.

266. “Interfacial tension minima in oil+water+surfactant systems. Effects of salt and temperature in systems containing nonionic surfactants”.
R. Aveyard, B.P. Binks, T.A. Lawless and J. Mead.
“Interfacial tension minima in oil+water+surfactant systems. Effects of salt, temperature and alkane in systems containing ionic surfactants”.
R. Aveyard, B.P. Binks and J. Mead. 

**Chapters in Books**

268. “Particles at Liquid Interfaces: An Introduction”.
B.P. Binks and T.S. Horozov.
In, *Colloidal Particles at Liquid Interfaces*, ed. B.P. Binks and T.S. Horozov,

269. “Solid Particles at Fluid Interfaces: Interactions and Applications”.
In, *Surfactants and Dispersed Systems in Theory and Practice*, ed. K.A. Wilk,

270. “Modern Techniques employed for Characterising Surfactant Systems”.
B.P. Binks.
In, *Modern Characterisation Methods of Surfactant Systems*, ed. B.P. Binks,

271. “Foams and emulsions: their stability and breakdown by solid particles and liquid droplets”.
In *Foams and Emulsions*, eds. J.F. Sadoc and N. Riviére, Kluwer, Amsterdam,

272. “Emulsions - recent advances in understanding”.
B.P. Binks.

273. "Surfactant monolayers in relation to foam breaking".
R. Aveyard, B.P. Binks and P.D.I. Fletcher.

274. “The resolution of emulsions, including crude oil emulsions, in relation to HLB behaviour”.

275. “Surfactant molecular geometry within planar and curved monolayers in relation to microemulsion phase behaviour”.
R. Aveyard, B.P. Binks and P.D.I. Fletcher.

276. Persistence length in microemulsion systems”.

**Refereed Conference Contributions**

277. “When is a polymer effective in reducing the pour point of a hydrocarbon wax/solvent mixture?”.

278. “I put it in, but where does it go?-The fate of corrosion inhibitors in multiphase systems”.

279. “Comparison of the effects of air, carbon dioxide and hydrogen sulphide on corrosion of a low carbon steel under water and its inhibition by a quaternary ammonium salt”.

280. “Multiple emulsions stabilised solely by nanoparticles”.

281. "Statistical thermodynamics of adsorption, micellisation and solubilisation in oil+water+surfactant systems”.

282. “Study of oil-water-surfactant multiphase systems”.
O. Abillon, B.P. Binks, D. Langevin and J. Meunier.

**Other Research Media**

283. “Corrosion Inhibition”.
B.P. Binks and P.D.I. Fletcher.

284. “Solubilisation, microemulsions and macroemulsions”.
R. Aveyard and B.P. Binks.
British Association for Chemical Specialities, Surfactant Training Module P5B, 23 pages and 30 slides (1991).

21.9.16