# Polymer physical chemistry

**English** : these works are concerned with structure, morphology and crystallization of semi-crystalline polymers as molecular complexes of poly(oxy ethylene), poly aryl ether ketones, aliphatic polyesters and block copolymers.

**Français** : Ces activités de recherche concernent la morphologie, la structure et la cristallisation de matériaux polymères thermoplastiques, tels que des complexes du polyoxyéthylène, des poly(aryl éther cétone)s, des polyesters et des copolymères par blocs.

## Publications


- Comparison of the structure and thermal properties of a poly(aryl ether ketone ether ketone naphthyl ketone) with those of poly(aryl ether ketone ether ketone ketone). Marcel Dosière, Didier Villers, Mikhail G. Zolotukhin, Michel H.J. Koch, e-Polymers 2007, no. 130.
- Outer-Surface Induced Crystallization of Semirigid Polymer Films. P. Damman, M.G. Zolotukhin, D. Villers, V. M. Geskin, R. Lazzaroni, Macromolecules, 2002, 35, 2-5.
- Synthesis and thermal characterization of crystalizable poly(caprolactone)/ poly(hexamethylene terephthalate) block copolymer. C. Lefèvre, D. Villers, M.H.J. Koch, C. David, Polymer, 2001, 42(21), 8769-8777.
- On the effect of reaction conditions on morphology of aromatic poly(ether-ketone)s, PEKK. D.R. Rueda, M.G .Zolotukhin, M.E. Cagiao, F. Ania, M. Dosière, D. Villers, J. de Abajo, J. Macromol. Sci. - Phys., 2001, 40(6), 709-731.
- Effect of the elongation rate on the biodegradation of polycaprolactone films by micro-organisms Lefèvre, C. ; David, C. ; Villers, D. Macromol. Chem. Phys., 1999, 200(6), 1374-1379.
- Subsidiary WAXS Maxima and Morphology of Aliphatic Polyester Crystals Obtained by Crystallization from Solution. D. Villers, M. Dosière, Polymer, 1998, 39(14), 3129-3134.
- Time resolved SAXS, WAXS and DSC Study of the morphological modifications during annealing from the glassy state in poly(ary-l-ether-ether-ketone) (PEEK). C. Fougnies, P. Damman, D. Villers, M. Dosière, M.H.J. Koch. Macromolecules, 1997, 30, 1385-1391.
- Aromatic polymers obtained by precipitation polycondensation. 3. Thermal behavior and microstructure of PEKEKK particles. D.R Rueda., M.G. Zolotukhin, M.E. Cagiao, F.J. Balta Calleja, D. Villers, M. Dosière, Macromolecules, 1996, 29(22), 7016-7021.
- The use of an imaging plate as a detecting system in X-ray diffraction of polymers. D. Villers, C. Fougnies, L. Paternostre, C. Beumier, M. Dosière, Nuclear Instruments and Methods B, 1995, 97, 265-268.
- Aromatic homopolymers obtained by precipitation polycondensation. 1. Synthesis of naphthalene-containing polyketones. M.G. Zolotukhin, M. Dosière, C. Fougnies, D. Villers, N.G. Gileva, A.A. Fatykhov, Polymer, 1995, 36(18), 3575-3583.
- New dynamical effects in spherulitic growth. D. Villers, M. Dosière, L. Paternostre, Polymer, vol. 35(8), pp 1586-92, 1994.
- Morphology and crystallization kinetics of the two allotropic forms of the poly(ethylene oxide)-resorcinol molecular complex. L. Paternostre, M. Dosière, D. Villers, P. Damman, Cl. Bourgaux, in NATO Workshop : Crystallization of Polymers, ed. M. Dosière, Kluwer Academic Publishers, vol 405, pp 549-552, 1993.
- Thermal annealing of stretched poly(aryl ether ether ketone). Ch. Fougnies, M. Dosière, D. Villers, P. Damman, J.J. Janimak, in NATO Workshop : Crystallization of Polymers, ed. M. Dosière, Kluwer Academic Publishers, vol 405, pp 543-548, 1993.

- Interspherulitic limits and transformation between the b and a forms of the poly(ethylene oxide)-resorcinol molecular complex. D. Villers, M. Dosière, L. Paternostre, in NATO Workshop : Crystallization of Polymers, ed. M. Dosière, Kluwer Academic Publishers, vol 405, pp 609-612, 1993.
- Crystals with curved edges : a unified model that mediates between the theories of nucleation-controlled and rough surface growth. J-J. Point and D. Villers, Polymer, vol. 33(11), pp 2263-72, 1992.
- Nucleation controlled growth and normal growth : a unified view. J-J. Point and D. Villers, Journal of Crystal Growth, vol. 114 pp 228-238, 1991.
- Intercalate with linear polymer host. Part IV. Structure of pC6H4XY polyoxyethylene intercalates from unit cell determination and energy minimization. J.J. Point, Cl. Coutelier and D. Villers, Journal of Physical Chemistry, vol 90, pp. 3277-3282, 1986.