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	5.3.4 Landau-de Gennes Expansion in Terms of the Alignment Tensor5.4 Conclusion; Acknowledgements; References; Chapter 6 Computer Simulations of Biaxial Nematics; 6.1 Introduction; 6.2 Order Parameters; 6.3 Model Potentials and Applications; 6.3.1 Lattice Models; 6.3.2 Atomistic Models; 6.3.3 Molecular Models; 6.4 Conclusion; Acknowledgements; 6.5 Appendices; 6.5.1 Quaternions; 6.5.2 Angular Momentum Operator; 6.5.3 Kinematic and Dynamic Equations of Rotational Motion; 6.5.4 Propagator/Integrator of Rotational Equations of Motion; 6.5.5 Gradient of the Biaxial Gay-Berne Potential 6.5.6 Torgues of the Biaxial Gay-Berne Potential
Sommario/riassunto	Liquid Crystals are a state of matter that have properties between those of conventional liquid and those of a solid crystal. Thermotropic liquid crystals react to changes in temperature or, in some cases, pressure. The reaction of lyotropic liquid crystals, which are used in the manufacture of soaps and detergents, depends on the type of solvent they are mixed with. Since the accidental discovery of the chiral nematic (ordered) phase in 1888 many liquid crystal phases have been found, sometimes by chance and sometimes by design. The existence of one such phase was predicted by Freiser in 197