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# Molecular Crystals and Liquid Crystals Science and Technology. Section A. Molecular Crystals and Liquid Crystals

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## Introduction

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## INTRODUCTION

The field of liquid crystals is, by its nature, interdisciplinary. It incorporates aspects of chemistry, physics, mathematics, engineering and, more recently, biology and materials science. As the sophistication of science and technology has increased, liquid crystals have become even more important, and have proved of fundamental importance in classical as well as emerging areas of basic science and application.

In recent years a great deal of work has been done on the synthesis and characterisation of new materials that have shown new features interesting both from a fundamental point of view and for applications. For this reason it seemed appropriate and timely to provide a report of the trends which are currently followed in the study of new liquid crystalline materials dealing both with their structural and functional properties and with the underlying scientific principles from which these properties derive.

This special issue of *Molecular Crystals and Liquid Crystals* on "New Liquid Crystalline Materials" contains eighteen papers by well-known experts on a broad spectrum of topics for which the unique combination of order and fluidity special to the liquid crystalline state is crucial to materials properties. The topics range from synthetic chemistry to interfacial studies to optical physics, and from low molar mass compounds to high polymer systems. Crucial to each is the anisotropic structure of the liquid crystalline state and its relation in both a qualitative and a quantitative sense to the resulting materials behavior. We hope this collection of authoritative reports will evidence to the reader both the fascination and the utility of this research field.

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