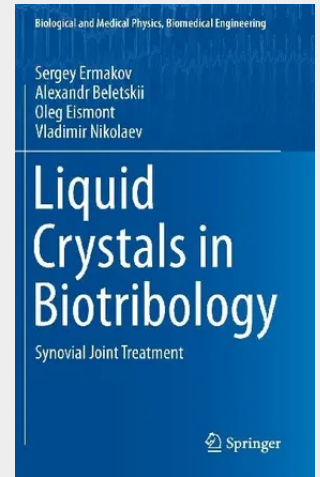


Liquid Crystals in Biotribology

Synovial Joint Treatment

This book summarizes the theoretical and experimental studies confirming the concept of the liquid-crystalline nature of boundary lubrication in synovial joints. It is shown that cholesteric liquid crystals in the synovial liquid play a significant role in the mechanism of intra-articular friction reduction. The results of structural, rheological and tribological research of the creation of artificial synovial liquids containing cholesteric liquid crystals in natural synovial liquids are described. These liquid crystals reproduce the lubrication properties of natural synovia and provide a high chondroprotective efficiency. They were tested in osteoarthritis models and in clinical practice.

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