



## Molecular Crystals and Liquid Crystals Incorporating Nonlinear Optics

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### Liquid Crystal Polymers: Conformation of Deuterated Parts by SANS

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Comb like liquid crystal polymers are polymers on each monomer is grafted a hanging liquid crystal molecule. The bulk state has the classical liquid crystal phases (nematic, smectic); what is the conformation of a chain in these phases is the problem to solve with the help of small angle neutron scattering. The values of the global sizes  $R_{\parallel}$  and  $R_{\perp}$  of a chain (in the direction parallel and perpendicular to the director) are discussed as a function of the chemical species and the temperature. Strange results are discussed in terms of segregation of labelled parts.

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