

## Phototropic liquid crystals comprising one component.

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### Streszczenie

Phototropic liquid crystals (PtLC), in which the phase transition can be controlled by the light, are a new class of liquid crystal materials possessing number of potential applications, especially in photonic devices. So far a significant majority of PtLC materials has been realized by the doping a classical liquid crystal with a photochromic dye. Here we report PtLCs comprising a single compound. Liquid-crystalline and photochromic properties have been accomplished in alkylo-alkoxy derivatives of azobenzene. Such compounds show a rich polymorphism which can be controlled by the light. The phenomenon of the photochemical phase transition has been investigated by means of holographic grating recording.

### Słowa kluczowe

Phototropic liquid crystal, azobenzene liquid crystal, azo compound, polymorphism, photochemical phase transition, photoinduced phase transition, holographic recording, diffraction grating

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