Liquid Crystalline Polyacrylates Containing Pyridine and Chiral Terminal Group

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Four acrylate monomers having mesogenic moieties based on (S)-2-Methylbutyl pyridine-3-carboxylate and (S)-3-Methylpentyl pyridine-3-carboxylate were synthesized. The influences of the variation of the chiral moiety and of the spacer length were discussed. The corresponding polymers were prepared by free-radical polymerization. Their liquid-crystal behaviours were investigated by differential scanning calorimetry, polarized optical microscopy, and X-ray diffraction.

$$-(CH_{2}CH)_{\overline{n}}$$

$$COO-(CH_{2})_{\overline{k}}-O-(CH_{2})_{\overline{m}}CHCH_{2}CH_{3}$$

$$CH_{3}$$

m = 1.2

k=6,11