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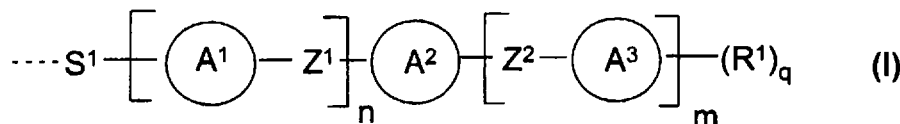
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(54) Title: PHOTOACTIVE COPOLYMER



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(57) Abstract: The invention relates to a novel photoactive copolymer and its use as orientation layers for liquid crystals and in the construction of unstructured and structured optical elements and multi-layer systems. The copolymer contains side chains incorporating photoreactive groups and simultaneously side chains of general formula (I), wherein the total number of rings, including the number of rings in optionally present condensed systems is at least two and at most six; and wherein the broken line symbolizes the point of linkage to the polymer main chain; A² represents an alicyclic ring or a condensed ring system incorporating 2-5 rings, in which one or more non adjacent CH₂ groups are optionally replaced by oxygen, which is unsubstituted or substituted by fluorine or by a straight-chain or branched alkyl residue which is unsubstituted, mono-substituted by cyano or halogeno, or poly-substituted by halogeno, having 1 to 18 carbon atoms and wherein one or more non adjacent CH₂ groups may independently be replaced by a group Q, where Q represents -O-, -CO-, -CO-O-, -O-CO-, -Si(CH₃)₂-O-Si(CH₃)₂-, -NR²-, -NR²-CO-, -CO-NR²-, -NR²-CO-O-, -O-CO-NR²-, -NR²-CO-NR²-, -CH=CH-, -C=C-, -O-CO-O-, and R² represents hydrogen or lower alkyl; A¹, A³ each independently or the other represents an aromatic or alicyclic group which is unsubstituted or substituted by fluorine, chlorine, cyano or by a cyclic, straight-chain or branched alkyl residue which is unsubstituted, mono-substituted by cyano or halogeno, or poly-substituted by halogeno, having 1 to 18 carbon atoms and wherein one or more non adjacent CH₂ groups may independently be replaced by Q, wherein Q and R² have the meaning given above, with the proviso that -CH=CH-, -C=C- are not in conjugation with aromatic rings.

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