

Title (en)

NON-LINEAR OPTICALLY ACTIVE POLYURETHANES HAVING HIGH GLASS TRANSITION TEMPERATURES.

Title (de)

NICHTLINEAR OPTISCH AKTIVE POLYURETHANE MIT HOHEN GLASÜBERGANGSTEMPERATUREN.

Title (fr)

POLYURETHANES NON LINEAIRES A ACTIVITE OPTIQUE PRESENTANT DES TEMPERATURES ELEVEES DE TRANSITION VITREUSE.

Publication

EP 0650502 A1 19950503 (EN)

Application

EP 93914688 A 19930621

Priority

- EP 9301587 W 19930621
- NL 9201202 A 19920706

Abstract (en)

[origin: WO9401480A1] The invention relates to a non-linear optically active polyurethane comprising a polymeric main chain and a donor-(pi)-acceptor sidegroup, with the sidegroup comprising a rigid donor group which is also part of the polymeric main chain. By incorporating rigid donor groups into the non-linear optically active polyurethane a high glass transition temperature (T_g above 170 C) is obtained, and hence increased thermal stability. The invention further relates to non-linear optically active polyurethanes having a T_g above 170 C, and to non-linear optically active waveguides comprising non-linear optically active polyurethanes according to the invention. Suitable rigid donor groups include nitrogen- or sulphur-containing alicyclic groups. In particular, dihydroxy pyrrolidine groups in which the nitrogen atom is directly coupled to the (pi)-acceptor group and dithiafulvene groups were found to be highly suitable for obtaining non-linear optically active polyurethanes of good thermal stability and polarizability.

IPC 1-7

C08G 18/67; **G02F 1/35**

IPC 8 full level

G02F 1/35 (2006.01); **C08G 18/30** (2006.01); **C08G 18/38** (2006.01); **C08G 18/67** (2006.01); **G02F 1/355** (2006.01); **G02F 1/361** (2006.01)

CPC (source: EP KR)

C08G 18/3819 (2013.01 - EP); **C08G 18/3836** (2013.01 - EP); **C08G 18/384** (2013.01 - EP); **C08G 18/67** (2013.01 - KR); **C08G 18/678** (2013.01 - EP); **G02F 1/35** (2013.01 - KR); **G02F 1/3617** (2013.01 - EP)

Citation (search report)

See references of WO 9401480A1

Designated contracting state (EPC)

AT BE CH DE DK ES FR GB GR IE IT LI LU MC NL PT SE

DOCDB simple family (publication)

WO 9401480 A1 19940120; CA 2139671 A1 19940120; CN 1083494 A 19940309; EP 0650502 A1 19950503; JP H08501811 A 19960227; KR 950702587 A 19950729

DOCDB simple family (application)

EP 9301587 W 19930621; CA 2139671 A 19930621; CN 93108077 A 19930705; EP 93914688 A 19930621; JP 50287194 A 19930621; KR 19950700049 A 19950104