

PCT

WORLD INTELLECTUAL PROPERTY ORGANIZATION
International BureauRTMP
copy

INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification ⁶: G02B 5/23, C08K 5/15, C07D 311/78, 311/96, 405/04, 407/04	A1	(11) International Publication Number: WO 96/14596 (43) International Publication Date: 17 May 1996 (17.05.96)
(21) International Application Number: PCT/US95/14323 ✓ (22) International Filing Date: 3 November 1995 (03.11.95) ✓ (30) Priority Data: 08/333,701 ✓ 3 November 1994 (03.11.94) ✓ US 08/542,993 ✓ 13 October 1995 (13.10.95) ✓ US (71) Applicant: PPG INDUSTRIES, INC. [US/US]; One PPG Place, Pittsburgh, PA 15272 (US). (72) Inventor: VAN GEMERT, Barry; 2004 High Pointe Drive, Murrysville, PA 15668 (US). (74) Agents: STEIN, Irwin, M.; PPG Industries, Inc., One PPG Place, Pittsburgh, PA 15272 (US) et al.	(81) Designated States: AU, BR, CA, CN, HU, JP, KR, MX, <u>SG</u> , European patent (AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE). Published With international search report.	

SG 9701830-3

(54) Title: NOVEL PHOTOCHROMIC INDENO-FUSED NAPHTHOPYRANS. ✓**(57) Abstract**

Described are novel photochromic indeno-fused naphthopyran compounds, examples of which are naphthopyran compounds having a substituted or unsubstituted indeno group, the 2,1 positions of which are fused to the f side of the naphtho portion of the naphthopyran, and certain substituents at the 3-position of the pyran ring. Certain substituents may also be present at the number 5, 6, 7, 8, 9, 10, 11, 12, or 13 carbon atoms of the compounds. These compounds may be represented by graphic formula (I). Also described are polymeric organic host materials that contain or that are coated with such compounds. Optically clear articles such as ophthalmic lenses or other plastic transparencies that incorporate the novel naphthopyran compounds or combinations thereof with complementary photochromic compounds, e.g., certain other naphthopyrans, benzopyrans, and spiro(indoline)type compounds, are also described.

