

Title (en)
CHEMICAL FUNCTIONALIZATION OF POLYMERS

Title (de)
CHEMISCHE FUNKTIONALISATION VON POLYMEREN

Title (fr)
CHANGEMENT DE LA FONCTIONNALITE CHIMIQUE DES POLYMERES

Publication
EP 0689684 A4 19960724 (EN)

Application
EP 94912812 A 19940318

Priority
• US 9402982 W 19940318
• US 3338293 A 19930318

Abstract (en)
[origin: WO9422053A1] Methods for covalently modifying polymeric substances, and various so modified polymers, are disclosed. The methods require a functionalizing reagent comprising molecules each having a nitrenogenic group and a functionalizing group. The functionalizing-reagent molecules are brought into reactive proximity to the polymer molecules and exposed to a reaction-energy source such as photons, electrons, or heat, which converts the nitrenogenic groups to nitrene intermediates that covalently react with -CH, -NH, -OH, -C=C-, C-C, and other groups to cause nitrene addition or insertion of the functionalizing groups to the polymer molecules. Functionalization can be via a one- or multiple-stage process.

IPC 1-7
G03C 5/56; **G03F 7/008**; **C08F 251/00**; **C08F 257/02**; **C08F 291/14**

IPC 8 full level
G01N 33/547 (2006.01); **C08F 8/30** (2006.01); **C08G 85/00** (2006.01); **C12N 11/08** (2006.01); **G03F 7/012** (2006.01)

CPC (source: EP)
C08F 8/30 (2013.01); **G03F 7/012** (2013.01)

Citation (search report)
• [E] WO 9417447 A1 19940804 - OREGON STATE [US]
• [X] MINGDI YAN ET ALL.: "Photochemical Functionalization of Polymer Surfaces and the Production of Biomolecule-Carrying Micrometer-Scale Structures by Deep-UV Lithography Using 4-Substituted Perfluorophenyl Azides", JOURNAL OF THE AMERICAN CHEMICAL SOCIETY, vol. 115, no. 2, 27 January 1993 (1993-01-27), DC US, pages 814 - 816, XP002002135
• [X] SUI XIONG CAI ET ALL.: "Introduction of Functional Groups into Polymer Films via Deep-UV Photolysis or Electron-Beam Lithography: Modification of Polystyrene and Poly(3-octylthiophene) by a Functionalized Perfluorophenyl Azide", CHEMISTRY OF MATERIALS, vol. 4, no. 4, July 1992 (1992-07-01) - August 1992 (1992-08-01), WASHINGTON US, pages 879 - 884, XP002002136
• See references of WO 9422053A1

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