

CURRENT RESEARCH PROJECTS

TITLE: "Materials and systems for Optical Data Storage and Processing"

SUPPORTING ENTITY: European Science Foundation COST ACTION P8

FROM 2003 TO 2006

Spanish Member of the Management Committee: Rafael Alcalá Aranda

TITLE: "Photoaddressable polymers for optical storage and other optical applications"

SUPPORT FROM: DGICYT Spanish government (MAT2005-06373-C02-02)

FROM 2005 TO 2008

HEAD RESEARCHER: Belén Villacampa Naverac

SUMMARY: The general aim of this proposal is the preparation, characterization and study of the optical properties of several photoaddressable polymers. The proposed materials are linear and dendrimeric-linear block copolymers, along with new side chain polymers, dendrimers and supramolecular polymers. They will incorporate azobenzene moieties as photoaddressable units. The synthesized materials will be adequately characterized and processed as films in order to evaluate their optical properties. In particular, the study of the photo-induced optical anisotropy and the process of holographic recording under continuous and pulsed excitation has been planned. The properties generated by the photoinduction of chirality will also be explored. Furthermore, an insight into the basic mechanisms of photoinduced anisotropy will also be carried out. The analysis of the relationship between the composition-structure of the material and the properties will allow to optimize the structural design of materials, the processing and irradiation conditions of the films to have the best optical properties, specially, in optical storage of information.
