ROSKILDE UNIVERSITY

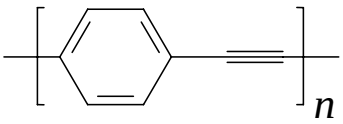
Department of Science, Systems and Models

September 2007

Project Suggestion:

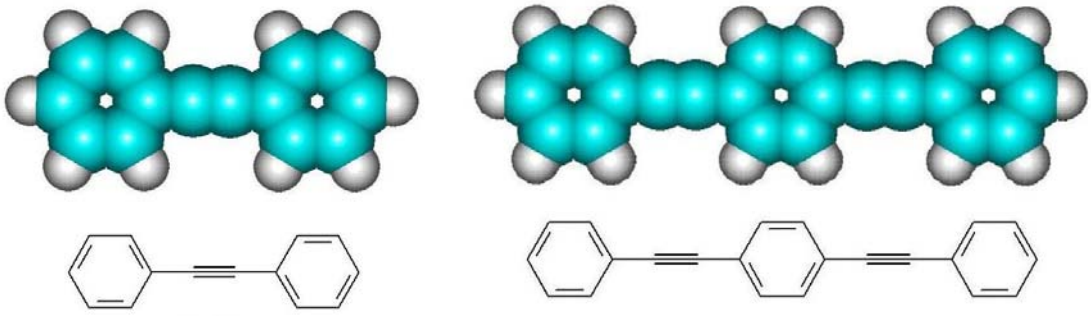
Conformation and Molecular Symmetry of Model Compounds for Electrically Conducting Polymers

Polarization spectroscopic investigation of 1,2-diphenylacetylene (DPA) and 1,4-bis(phenylethynyl)benzene (BPEB) aligned in stretched polyethylene.



PPE

Poly(*p*-phenylenethynylene) (PPE) is frequently applied as an electrically conducting 'skeleton' in polymer-based solar cells. The electron transport properties depend on the extended conjugation of the π-electron system of the polymer. However, the efficiency of this conjugation is influenced by the torsional angles of the linked phenylene units. Are the benzene rings in PPE co-planar, or are they distributed within a range of dihedral angles? It is the purpose of this project to throw some light on this question by a polarization spectroscopic investigation of the model compounds 1,2-diphenyl-acetylene (DPA) and 1,4-bis(phenylethynyl)benzene (BPEB) oriented in stretched polyethylene. The project is a carried out in collaboration with Kim Troensegaard Nielsen, PhD, *LEO Pharma*.



DPA BPEB

Some references

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