The study of mixed self-assembled monolayers of perylenediimide and hexanethiol by cyclic voltammetry and absorption spectrophotometry shows a non-linearity of absorbance maxima as a function of the surface coverage. This surprising result could be supported by an increase in the average tilt angle at low coverage, suggesting that the dilution of redox species through an alkanethiol would induce a change of the orientation of immobilized chromophores and, therefore, a modification of the optical properties of the monolayer.
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