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Acid-base isomerization of hybrid molecules based on fullerene C₆₀ and spiropyrans

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General considerations. Commercially available [60]fullerene (99.5% pure, Sigma-Aldrich) was used. Spiropyrans were prepared by standard procedures. The reaction products were analyzed on a Hewlett Packard HP 1090 HPLC chromatograph at 340 nm. The mixtures were separated on a metal preparative column Cosmosil Buckyprep Waters (250×10 mm, pyrenylpropyl-silica) at ~20 °C. Toluene was used as an eluent, the flow rate was 3.0 ml min⁻¹. The ¹H NMR spectra were run on a Bruker Avance-500 spectrometer at 500.17 MHz. The mixture of CDCl₃ and CS₂ (1:5) was used as a solvent. The UV spectra were run on an Agilent Cary 60 UV-Vis spectrometer. Hamamatsu Lightningcure LC-8 light source was used for UV irradiation of hybrid compounds.

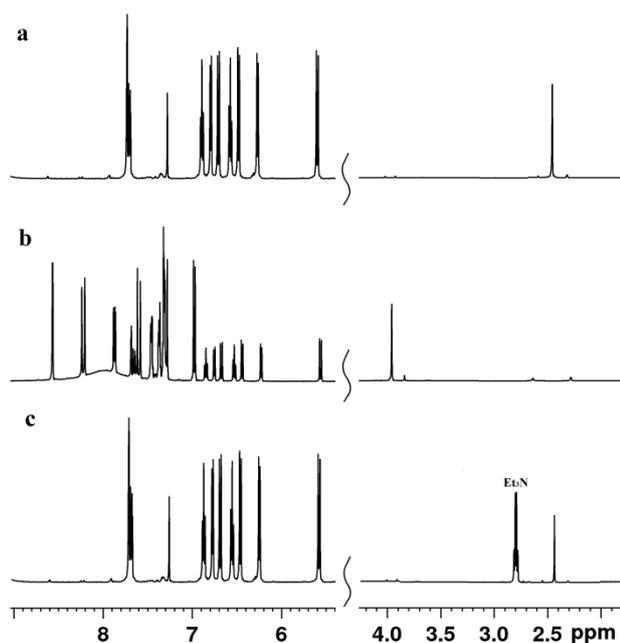


Figure S1 ^1H NMR spectra in CDCl_3 of the spiropyran **3** (a) before, (b) after exposure to acid and (c) after further base neutralization.

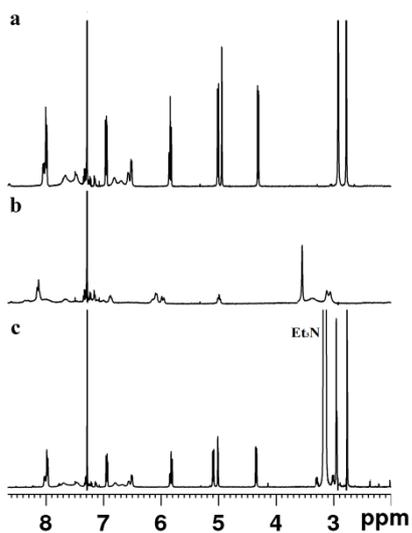


Figure S2 ^1H NMR spectra in CDCl_3 of the hybrid compound **1a** (a) before, (b) after exposure to acid and (c) after further base neutralization.

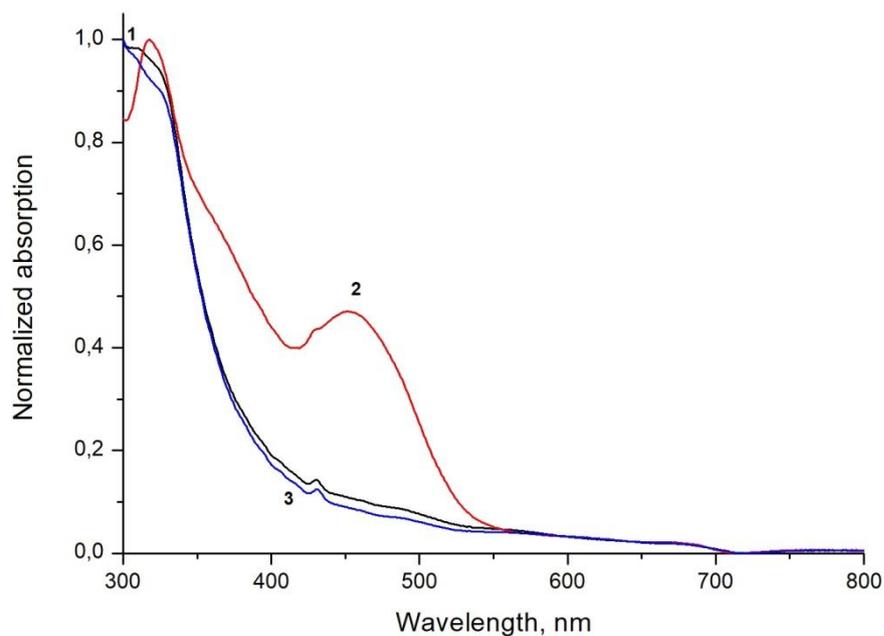


Figure S3 Normalized absorption spectra of the hybrid compound **1b** in toluene (1) before exposure to acid, (2) acid isomerization and (3) after further exposure to Et₃N.

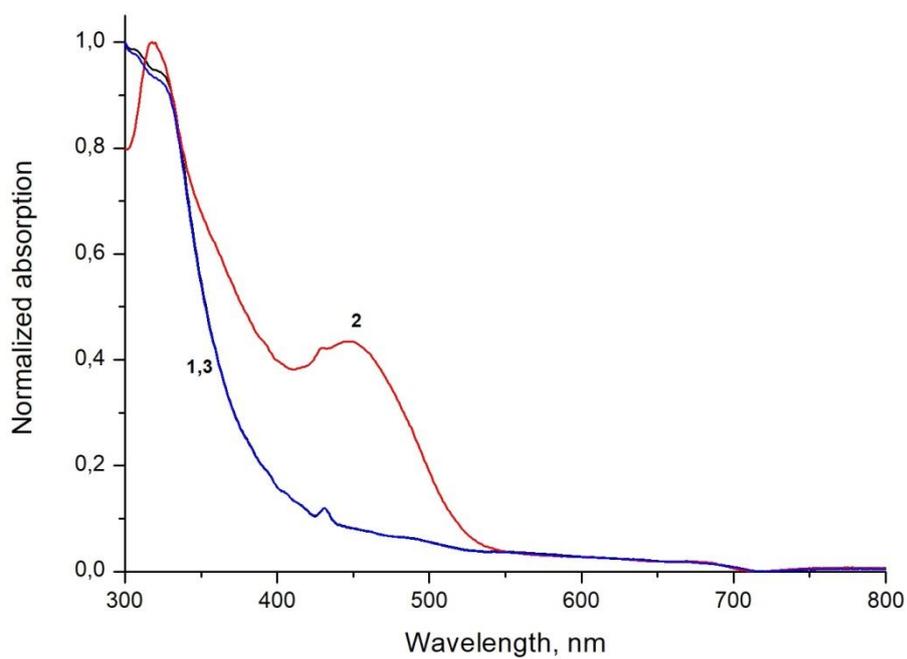


Figure S4 Absorption spectra of the hybrid compound **1c** in toluene (1) before exposure to acid, (2) acid isomerization and (3) after further exposure to Et₃N.