Photoswitchable interactions between photochromic organic diarylethene and surface plasmon resonance of gold nanoparticles in hybrid thin films

Arnaud Spangenberg, Rémi Métivier, Ryohei Yasukuni, Shibata Kunihiro, Arnaud Brosseau, Johan Grand, Jean Aubard, Pei Yu, Tsuyoshi Asahi, and Keitaro Nakatani

PPSM, ENS Cachan, CNRS, UMR8531, 61 av. Président Wilson, F-94235 Cachan cedex, France.

Present address: IS2M, CNRS, LCR 7228, Univ. Haute-Alsace, Mulhouse, France.

ITODYS, Univ. Paris Diderot, CNRS, UMR 7086, 15 rue J.-A. de Baïf, 75205 Paris cedex 13, France.

Department of Applied Physics, Osaka University, Yamadaoka 2-1, Suita, Osaka 565-0871, Japan.

ICMNO, Université Paris-Sud 11, CNRS, F-91405 Orsay, France.

Present address: Department of Material Science and Biotechnology, Ehime University, 10-13 Dogohimata, Matsuyama, Ehime 790-8577, Japan.

Figure S1. AFM profiles of (a) D1 and (b) D2 organic layers deposited on a glass substrate. Thickness measurements of 60-80 nm for D1 and 70-100 nm for D2 layers were recorded.

Figure S2. (a) Real and (b) imaginary refraction indices of the organic diarylethene materials D1 and D2 in their open (OF) and closed-forms (CF), calculated from experimental differential absorption spectra as described by Kramers and Kronig.

References: