

Supplementary Data

Potential-dependent morphological change of n-hexadecane small droplet on a Au(1 1 1) electrode in aqueous solution: a voltammetric and electrochemical fluorescence microscopic study

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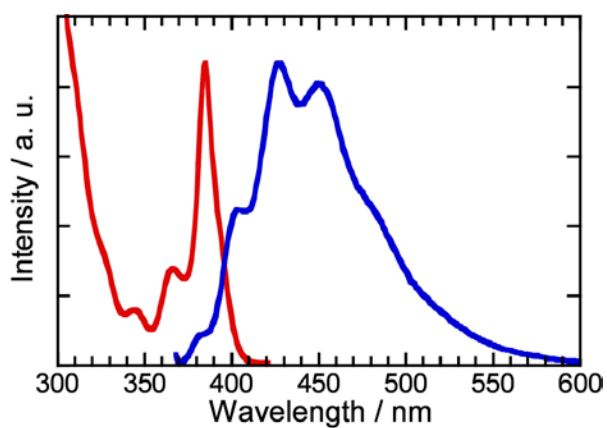
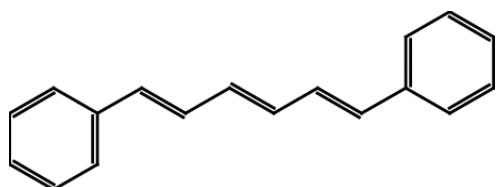
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Video Movie. A typical example of video movie of the fluorescence microscopic image.

1,6-diphenyl-1,3,5-hexatriene (DPH)



Perylene (Pr)

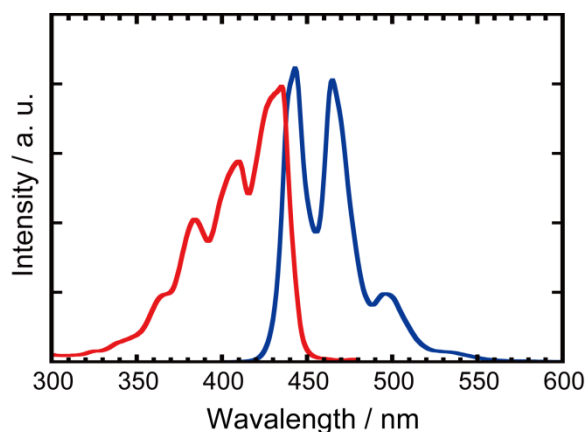
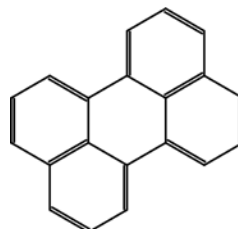


Fig. S1 Fluorescence and excitation spectra of probe dyes, 1,6-diphenyl-1,3,5-hexatriene (DPH) and perylene (Pr). Fluorescence spectrophotometer used: Shimadzu RF-5300PC.

Left: Molecular structure and spectra for DPH. Blue line, fluorescence spectrum with excitation at 365 nm. Red line, excitation spectrum with fluorescence monitoring at 425 nm. Solvent: *n*-hexane.

Right: Molecular structure and spectra for Pr. Blue line, fluorescence spectrum with excitation at 386 nm. Red line, excitation spectrum with fluorescence monitoring at 496 nm. Solvent: *n*-hexane.

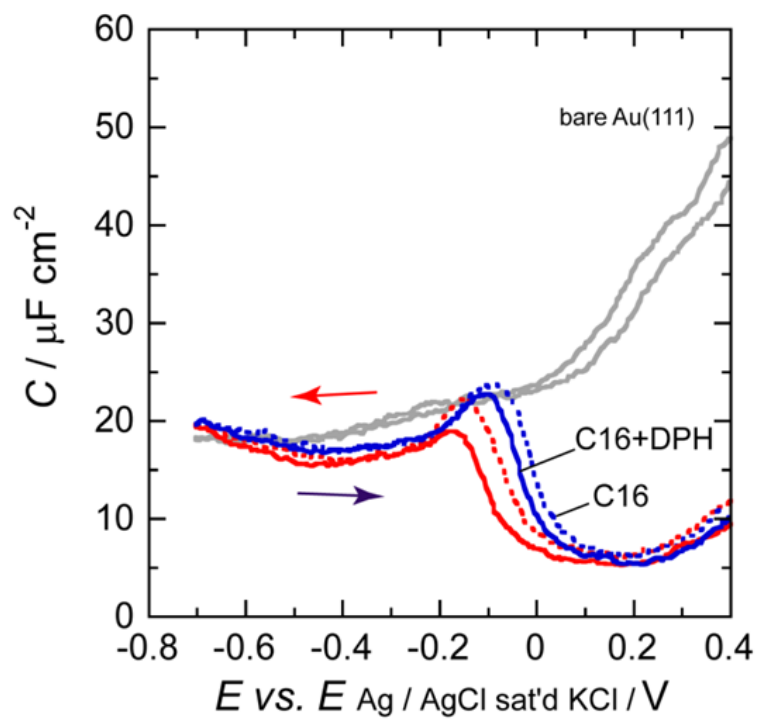


Fig. S2 Effect of addition of DPH in n-hexadecane on Au(1 1 1) electrode upon the C-E curve when touching method was used for deposition.

Description of video movie data

A typical example of a real time video movie of the fluorescence microscopic image.



DVD_051032.mov

Fluorescence Microscope: eclipse TE300 (Nikon)

CCD video camera: JAI, 755 Intelligent ICCD Camera, 30 frame/s

Objective lens: Nikon, Plan Fluor, $\times 10$

Electrode: Au(1 1 1) in 0.05 M KClO₄

Measurement details: *n*-Hexadecane of an amount of 2500 ML equivalent with Pr was deposited on a Au(1 1 1) electrode surface by the macroscopic casting method. Potential was scanned first to negative direction from 0.4 V to -0.7 V and then turned at -0.7 V to positive direction back to 0.4 V at a sweep rate of 5 mV s^{-1} .