

Supplementary Information

Turning fluorescence dyes into Cu(II) nanosensors

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1. UV-Vis and Fluorescence spectra of reference dyes 1b-3b

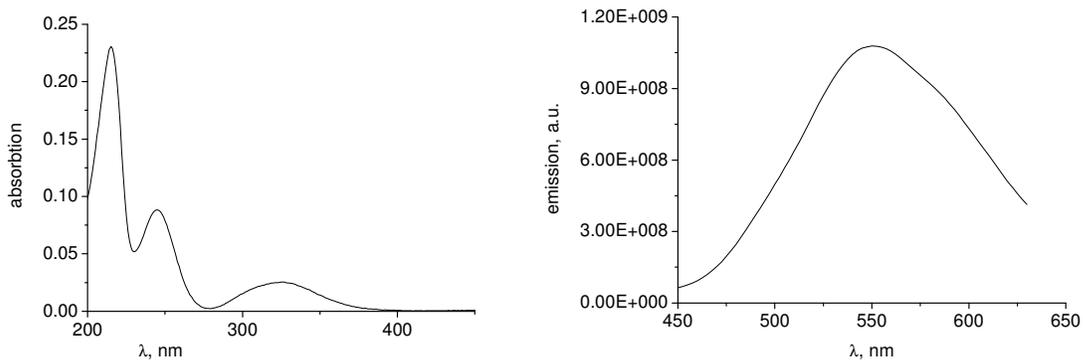


Figure S1: UV-Visible spectra and fluorescence spectra of dye **1b** in water. Conditions: HEPES buffer 0.01 M pH 7, 25 °C, $\lambda_{\text{exc}} = 340$ nm.

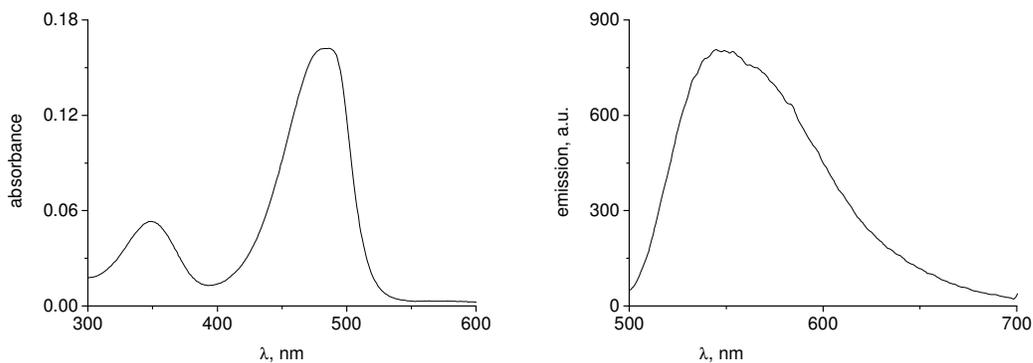


Figure S2: UV-Visible spectra and fluorescence spectra of dye **2b** in water. Conditions: HEPES buffer 0.01 M pH 7, 25 °C, $\lambda_{\text{exc}} = 466$ nm.

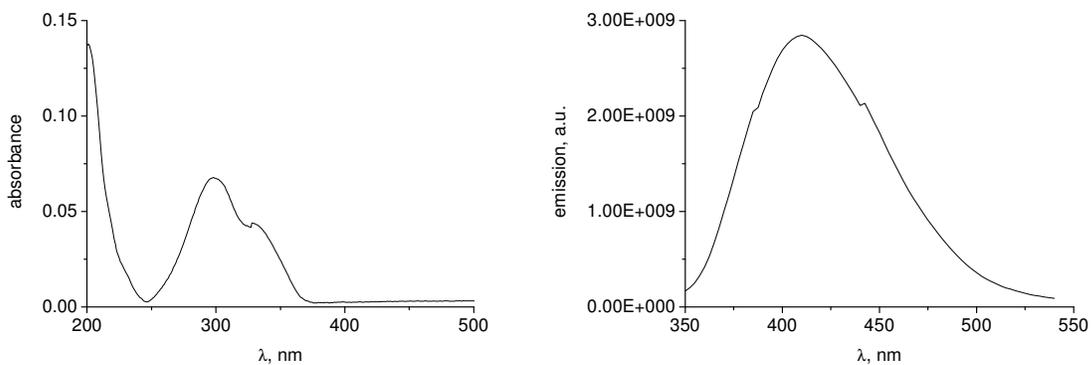


Figure S3: UV-Visible spectra and fluorescence spectra of dye **3b** in water. Conditions: HEPES buffer 0.01 M pH 7, 25 °C, $\lambda_{\text{exc}} = 290$ nm.

2. UV-Vis and Fluorescence spectra of dye-doped nanoparticles

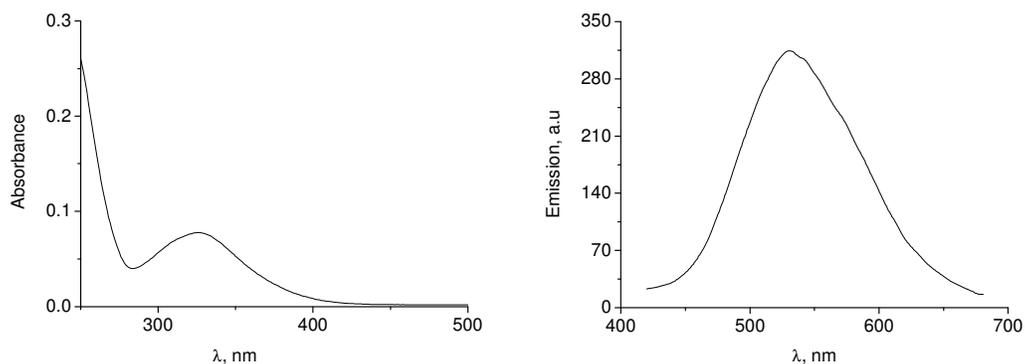


Figure S4: UV-Visible spectra and fluorescence spectra of dye **1a** containing silica particles (batch 1) in water. Conditions: HEPES buffer 0.01 M pH 7, 25 °C, $\lambda_{\text{exc}} = 340$ nm.

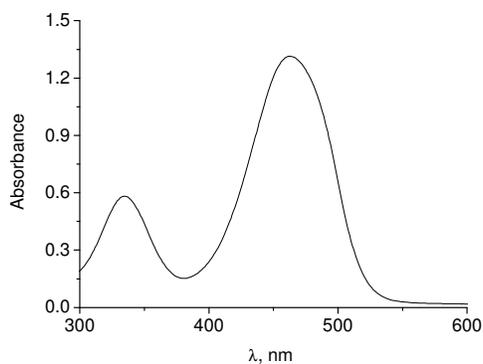


Figure S5: UV-Visible spectra of dye **2a** containing silica particles (batch 4) in water. Conditions: HEPES buffer 0.01 M pH 7, 25 °C.

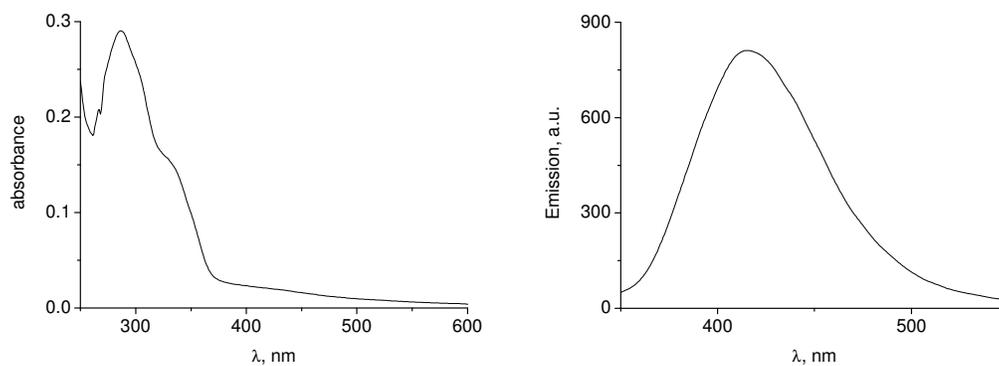


Figure S6: UV-Visible spectra and fluorescence spectra of dye **3a** containing silica particles (batch 5) in water. Conditions: HEPES buffer 0.01 M pH 7, 25 °C, $\lambda_{\text{exc}} = 290$ nm.

3. UV-Vis and Fluorescence spectra of dye-doped sol-gel films

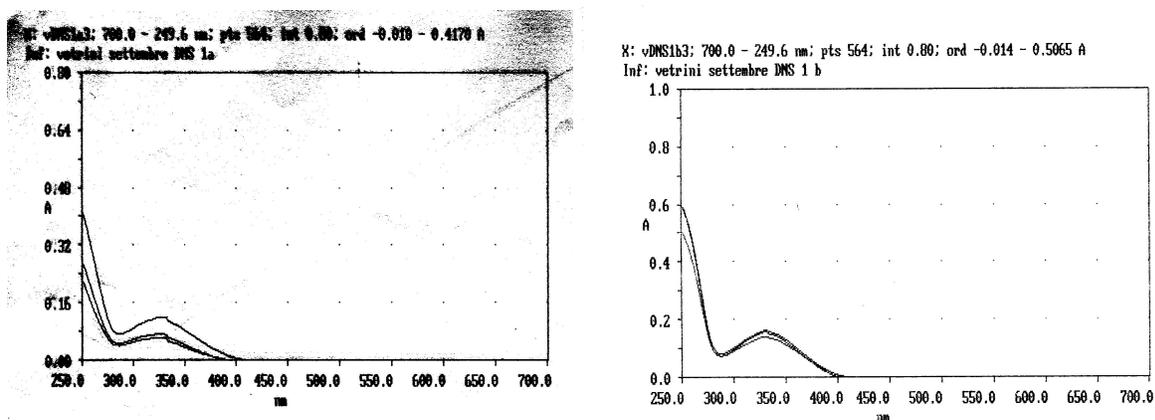


Figure S7: UV-Visible spectra of dye **1a** containing sol-gel thin films prepared with (left) and without (right) P127. Conditions: HEPES buffer 0.01 M pH 7, 25 °C, $\lambda_{exc} = 340$ nm.

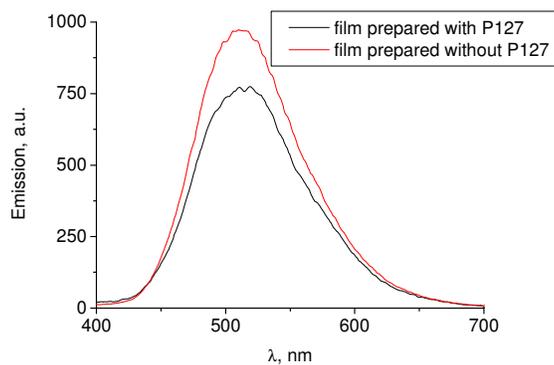


Figure S1: Fluorescence spectra of dye **1a** containing sol-gel thin film prepared with and without P127. Conditions: HEPES buffer 0.01 M pH 7, 25 °C, $\lambda_{exc} = 340$ nm.