Supporting Information

A Highly Sensitive "ON-OFF-ON" Dual Optical Sensor for Cu(II) Ion and Triazole Pesticides Based on Novel BODIPY-Substituted Cavitand

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1. Fluorescence Quantum Yield

Fluorescence quantum yield (Φ_F) is determined by the comparative method according to the Equation 1:

$$\Phi_F = \Phi_{FStd}\frac{F.A_{Std}.n^2}{F_{Std}.A.n_{Std}^2} \quad (1)$$

where F and F_{Std} are the areas under the fluorescence emission curves of cavitand **3** and the standard, respectively. A and A_{Std} are the respective absorbance of the cavitand **3** and standard at the excitation wavelengths, respectively. n^2 and n^2_{std} are the refractive indices of solvents used for the sample and standard, respectively. Rhodamine 6G (in water) was employed as a standard compound ($\Phi_F = 0.95$) in this study. The absorbances of the studied cavitand **3** and the standard Rhodamine 6G were kept ca. 0.05 at the excitation wavelength.

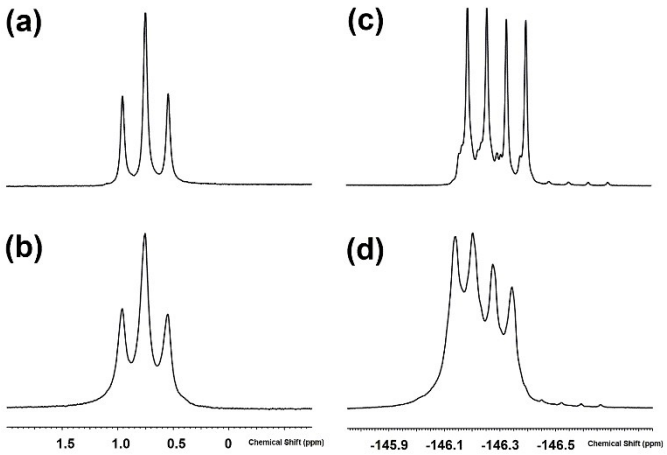

Fig. S1 Full ^{11}B NMR spectra of (a) ethynyl-BODIPY **2** and (b) cavitand **3**; full ^{19}F NMR spectra of (c) ethynyl-BODIPY **2** and (d) cavitand **3**.

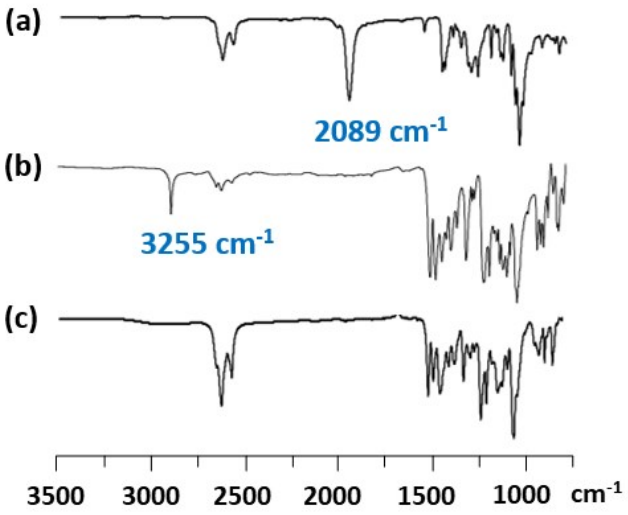

Fig. S2 FT-IR spectra (3500-800 cm^{-1}) of (a) cavitand **1**; (b) ethynyl-BODIPY **2** and (c) cavitand **3**.

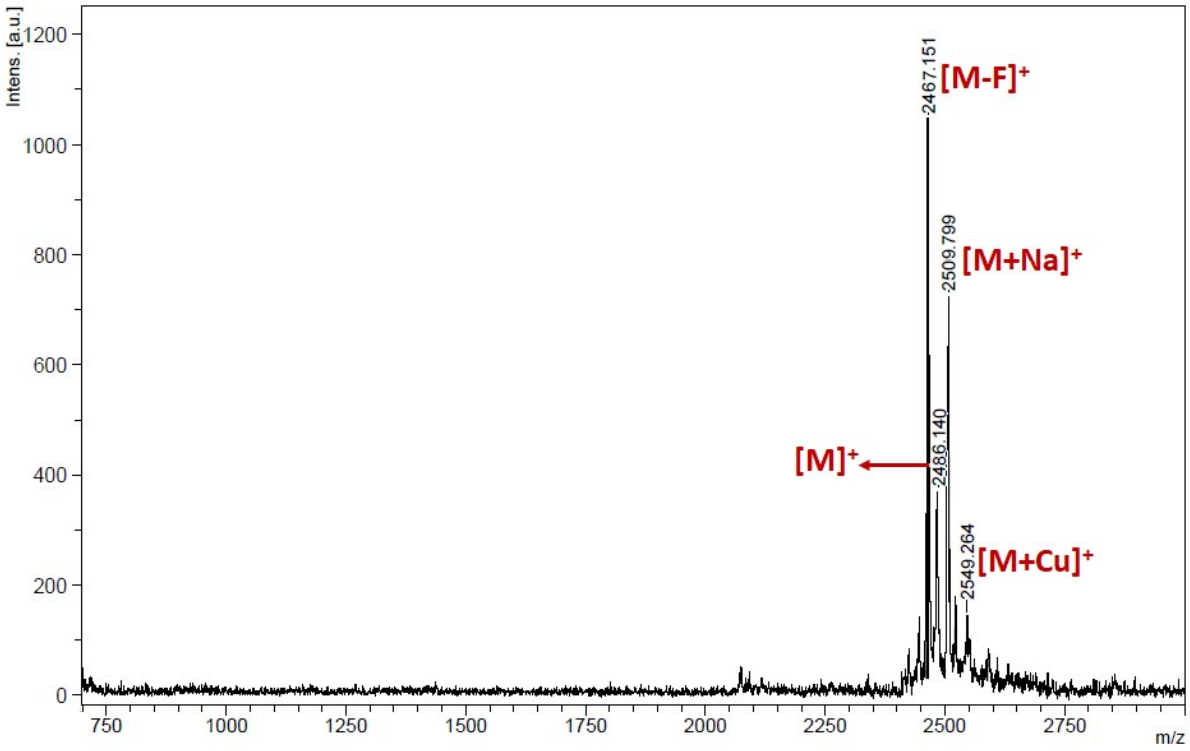

Fig. S3 MALDI-TOF spectrum of BODIPY functionalized resorcin[4]arene cavitand (**3**) (Matrix: DIT).

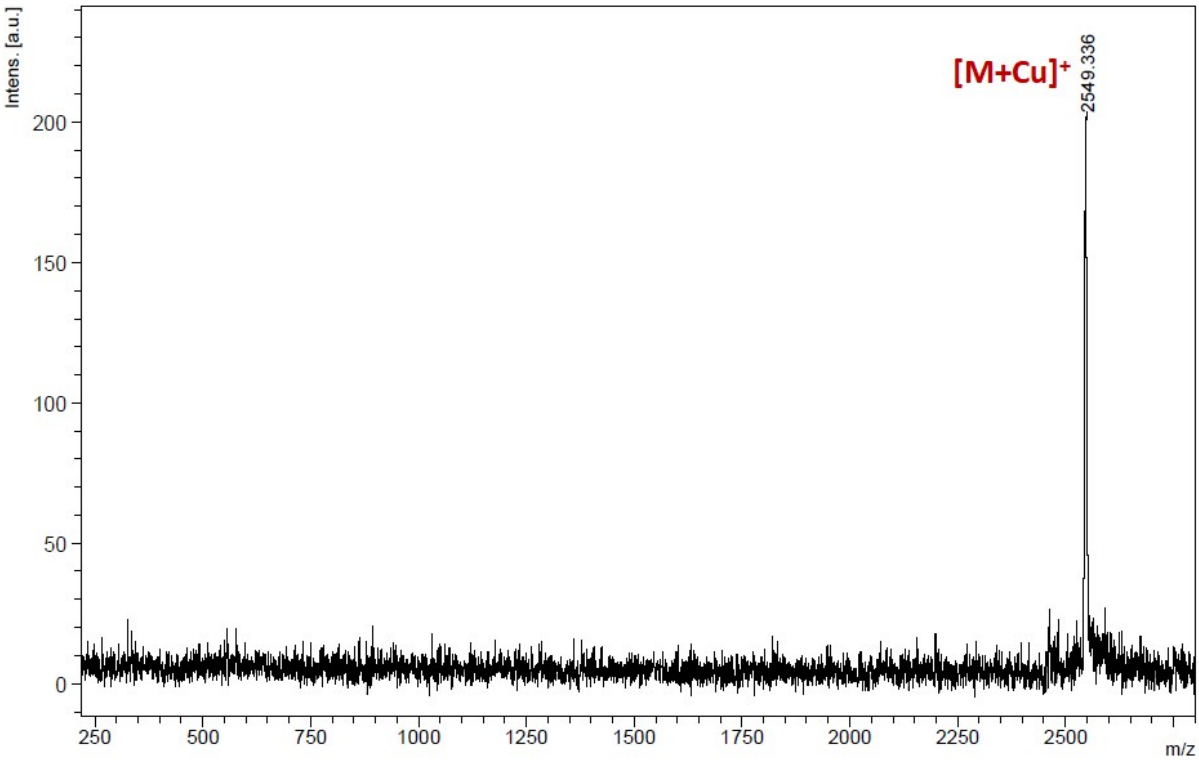

Fig. S4 MALDI-TOF spectrum of BODIPY functionalized resorcin[4]arene cavitand (**3**) after the addition of Cu^{2+} solution (Matrix: DIT).