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# Electronic Supplementary Information

## A water-soluble tetraphenylethene based probe for luminescent carbon dioxide detection and its biological application

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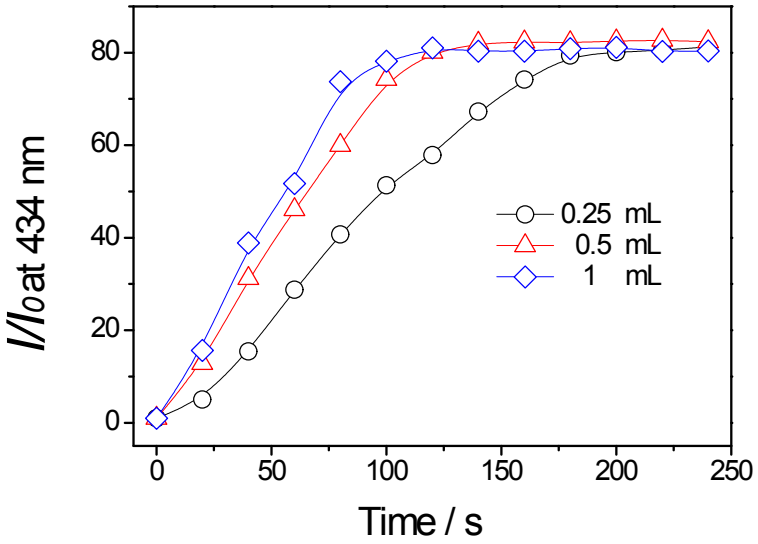


**Fig. S1** Time-dependent fluorescence spectra of TPE-ONa in aqueous solution with different amounts of $CO_2$ gas (0.25, 0.5, 1.0 mL).

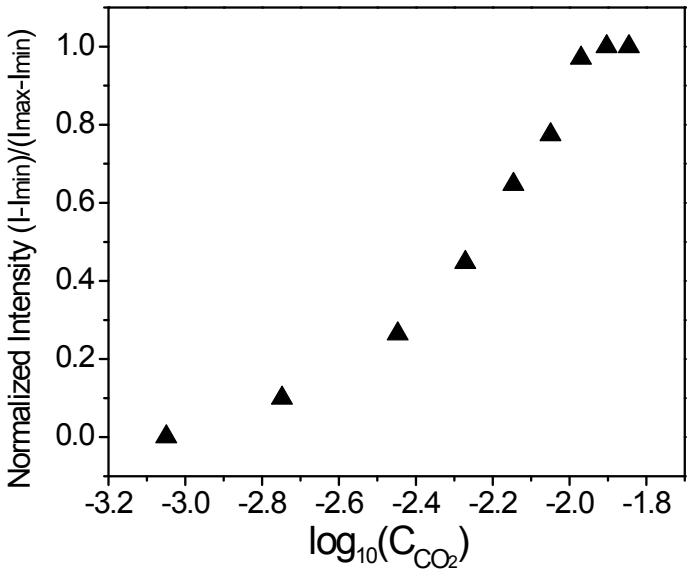


**Fig. S2** Changes in the fluorescence intensity of a solution of TPE-ONa in aqueous solution (50 μM) with various quantities of $CO_2$ gas.

$I_{min}$ represents the fluorescence intensity (at 434 nm) of TPE-ONa

$I_{max}$ represents the fluorescence intensity (at 434 nm) of TPE-ONa by bubbling with 0.32 mL $CO_2$ gas.