
Supplementary Material (ESI) for Analytical Methods

Supplementary data for “Determination of dissolved oxygen based on photoinduced electron transfer from quantum dots to methyl viologen”

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Color change of CdS QDs-GSH-MV system

In the presence of electron donor GSH, the light irradiation of CdS QDs could induce MV^{2+} dication to be reduced to the corresponding deep blue radical cation.

The diffusion of oxygen in the sample encourages the re-oxidation of the radical cations back to the dicationic form (light yellow).

Processes of oxygen sensitive CdS QDs-GSH-MV system under light illumination

A solution of CdS QDs (0.59 μ M), MV^{2+} (9.62 mM) and GSH (1.54 mM) in 0.2 M PBS (pH = 7.5).

1. Color change from original light yellow to dark blue under first light illumination. (see the video file “1 Color first.mpg”)

2. Diffusion of oxygen induce color to change back to its original light yellow. (see the video file “2 Colorless first.mpg”)

3. Color change to dark blue again under light illumination. (see the video file “3 Color second.mpg”)

4. Diffusion of oxygen induce color to change back to its original light yellow again. (see the video file “4 Colorless second.mpg”)