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Title: Fluorescent glutathione probe based on MnO₂-Si quantum dots nanocomposite directly used for intracellular glutathione imaging

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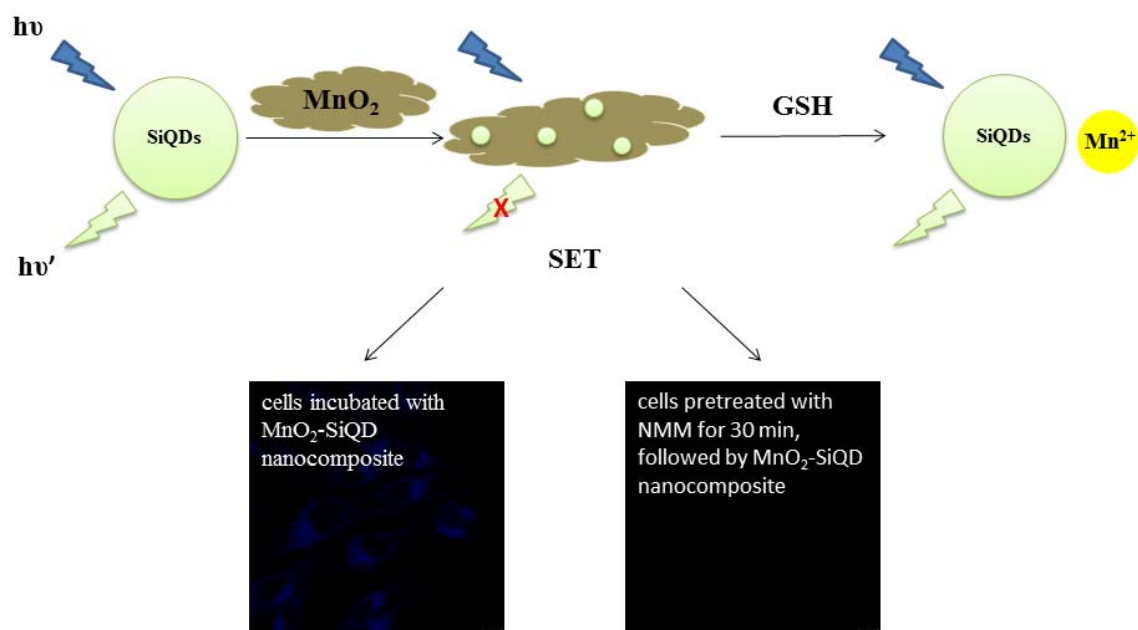
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Confocal fluorescence microscopy images of BHK cells

1
2 A strong reduction of the blue fluorescence of the silicon quantum dots (SiQDs)
3 happened due to the surface energy transfer (SET) from SiQDs to the deposited MnO₂.
4 And the MnO₂ nanosheets were reduced by glutathione so the GSH can be detected
5 by the fluorescence restored and it can be applied to determine GSH in living cells..

7 **Highlights**

8 1. MnO₂-SiQD nanocomposite is successfully prepared by a chemical reduction
9 process.

10 2. Blue fluorescence of the SiQDs was quenched due to the surface energy
11 transfer.

12 3. The fluorescence of silicon quantum dots could be recovered in the presence
13 of GSH.

14 4. The nanocomposite can be used for intracellular imaging.

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