

A study of a fluorescence labeling of nano-structured controller with oxadiazole materials with improved photochemical stability

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Organic fluorescent molecules are widely used including in biological studies by utilizing antigen-antibody interaction to visualize the distribution of specific bio-species. Conjugated organic fluorescent materials have advantages in the toxicity over inorganic materials, which have a high quantum yield and their extinction coefficients are 100 to 1000 times higher than general dyes, but suffer from the low efficiency and the short lifetime. In addition, they exhibit decreases in fluorescence efficiency in solid state, and they are also sensitive to external light and pH, as they are decomposed by a photochemical reaction in the excited state to cause photobleaching. Securing the problems of these existing fluorescent labeling materials The fluorescence efficiency is high even in the solid state, and the fluorescent labeling material having luminous efficiency, photochemical stability, biocompatibility and specificity can be dispersed using a nano-structured controller to detect specific cells.