

分子内扭转电荷转移的胶束效应

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摘要 研究了水溶液中对二甲氨基苯甲(DMABA)分子内扭转电荷转移(TICT)的胶束效应.胶束能促进DMABA的TICT过程,并导致DMABA的总荧光量子产率提高和TICT荧光峰的显著蓝移,DMABA的TICT荧光强度与正常荧光带的强度之比与DMABA的浓度之间有线性关系,胶束存在时该直线的斜率提高,认为DMABA的TICT激发态涉及两个DMABA分子,并且影响DMABA的TICT激发态相对布居的主要因素是其与相应的三重态和基态的能隙.讨论了DMABA的TICT激发态的可能结构及胶束效应的本质.

关键词 [苯甲醛 P](#) [激发态](#) [电荷转移](#) [荧光](#) [量子产率](#) [三线态](#) [胶团](#) [分子扭转](#)

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Micellar effects on the twisted intramolecular charge transfer

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Abstract Micellar effects on the twisted intramol. charge transfer (TICT) of p-N,N-dimethylaminobenzaldehyde (DMABA) in aqueous solution is investigated. Micelle promotes the TICT process of DMABA, increases the total fluorescence quantum yield of DMABA, and shifts TICT fluorescence band dramatically to blue. The ratio of the intensity of TICT fluorescence to that of normal fluorescence is proportional to DMABA concentration, and the presence of micelle increases the slope of the line of the ratio vs. DMABA concentration TICT state of DMABA may concern with two DMABA mols. and the key factors that affect the relative population of TICT excited state of DMABA are the energy gaps between the TICT state and the corresponding triplet state and between the TICT state and the ground state. The probable structure of the TICT state of DMABA and the intrinsic properties of micellar effects are discussed.

Key words [BENZALDEHYDE P](#) [EXCITED STATE](#) [CHARGE TRANSFER](#) [FLUORESCENCE](#)

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