

A *cis-trans* Photoisomerization of Novel Aromatic Imine Conjugated Systems

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We have been synthesized simply and systemically the aromatic imine conjugated systems showing the multi-functionality such as the fluorescence tuning as well as the high fluorescence property by the connection of imine bond through one-pot condensation reaction. The identity was checked by ¹H NMR spectroscopy, elemental analysis and UV-Vis absorption spectroscopy. The UV-Vis spectra of the aromatic imine conjugated system in chloroform solution have been studied under UV irradiation. The spectra show a moderate (π, π^*) absorption band at 240 ~ 280 nm and a strong ($\pi, \pi^*/n, \pi^*$) band at 360 ~ 500 nm. When this compound has been performed the irradiation under only fluorescence excitation wavelength at 280 nm from spectrofluorometer, we are found for the first time the occurrence of *trans*-to-*cis* photoisomerization. The aromatic imine conjugated derivatives exhibit absorbance of *cis* isomer which is positioned at a longer wavelength with respect to that of *trans* band. In this case, the isosbestic points appeared at 285, 358 and 492 nm. We have been also observed that *cis* isomer returned to originally under dark condition. This feature is useful in the development of molecular devices, in particular, photoswitches.

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