

36 – 63 Crystallographic Structure and Solid-state Fluorescence Enhancement Behavior of a 2-(9-Anthryl)phenanthroimidazole-Type Clathrate hosts upon inclusion of amine molecules

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Anthrylphenanthroimidazole-type clathrate host, which exhibit fluorescence enhancement behavior with the blue and red shift of the emission maximum upon formation of clathrates with amines, have been developed. The crystals of the title fluorescent clathrate compound with two fluorophores exhibit very different fluorescence behavior with different amines molecules. The crystal structures of the clathrate compounds have been determined by X-ray analysis. On the basis of the spectral data, the fluorescence lifetime and the crystal structures, the effects of the enclathrated guest on the solid-state photophysical properties of the clathrate compounds are discussed.

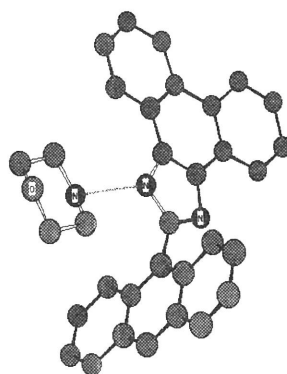


Fig.1 Crystal packing and hydrogen bonding pattern of API-morpholine

(L. Bu, T. Sawada, Y. Kuwahara, H. Shosenji, K. Yoshida, *Dyes and Pigments*, 59, 43-52 (2003).)