77. Title: Aminostilbazolium Derivatives Substituted by Hydroxyethyl Groups for Second-Order Nonlinear Optics

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Abstract: As DAST (1-methyl-4-{2-[4-(dimethylamino)phenyl]ethenyl}pyridinium p-toluenesulfonate) derivatives for improved crystal stability and inhibition of crystal water inclusion, 1-(2-hydroxyethyl)-4-(2-{4-[bis(2-hydroxyethyl)amino]phenyl}ethenyl)pyridinium salts 2 (2a-2l) and 1-(2-hydroxyethyl)-4-{2-[4-(diethylamino)phenyl]ethenyl}pyridinium salts 3 (3a-3l) were synthesized and their properties were investigated. Salts 3 were found to have no crystal water, and the cation with one hydroxyethyl group was effective to eliminate water inclusion in the crystals. Although the melting points of 2 were lower than those of the corresponding 3, decomposition temperatures of these chromophores were above 250 degrees C indicating their good thermal stability. Crystals of m-nitrobenzenesulfonate salt 3f was obtained without crystal water and showed SHG activity.