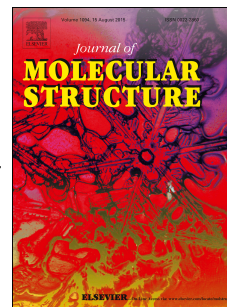


# Accepted Manuscript

Synthesis, spectroscopic characterization and photophysical investigations of new di-(2/3)-pyridine-stilbenes; isomerism, nitrogen position influence and solvent effects

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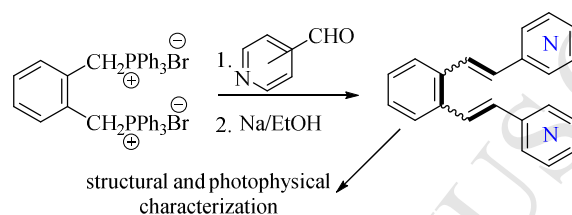
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# Synthesis, spectroscopic characterization and photophysical investigations of new di-(2/3)-pyridine-stilbenes; isomerism, nitrogen position influence and solvent effects

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## Graphical abstract



## Abstract

Stilbene analogues with the pyridine ring, that is di-(pyridin-2/3/4-yl)vinyl)benzenes, were synthesized, purified and completely spectroscopically characterized. Upon irradiation these di-(pyridin-3/4-yl)vinyl)benzenes showed no other process but isomerization, in conditions for both intra- and intermolecular reactions. Compound di-(pyridin-2-yl)vinyl)benzene gave by intermolecular cycloaddition reaction, in trace amounts, a dimeric product. This general unreactivity towards photocyclization and photocycloaddition reactions led to further investigations and description of photophysical properties. Quantum yields of photolysis as well as fluorescence were measured and calculated. It was shown that the placement of the nitrogen in the stilbene like system plays an important role in the photophysical properties. The connection between photophysical properties and configurational isomerism was defined. The polarity effect of the medium has a complex influence on the photobehaviour and the measured effects are probably not coming only from polarity.

## 1. Introduction

Study of the excited state behavior of hetero-stilbene and hetero-butadiene compounds has been a long standing interest of our group [1-12]. Our research has been based on intramolecular photocycloaddition [1-3, 9-12] and photocyclization reactions [10]. The

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