

The new indoline bisphotochromes on the base of dipyrrolobenzoquinoxaline:

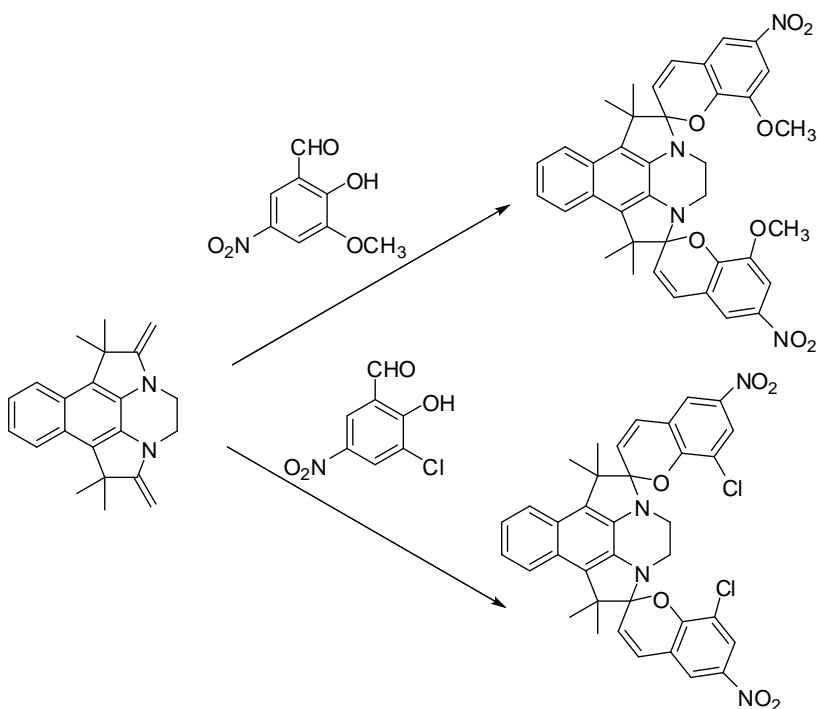
Synthesis, Comparative description

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With the intent to look for new photochromic substances, In this survey was implemented the condensation of previously synthesised fisher base bis-analogue -1,4,5,8-tetrahydro-1,1,8,8-tetramethyl-2,7-dimethyldipyrrolo[1,2,3-d,e:3,2,1-i,j]benzo[g]quinoxaline with 5-nitro-o-vanillin and 3-chloro-5-nitrosalicylic aldehydes in the area of alcohol. The new bis-spirochromenes: bis(6-nitro-8-methoxy-2H-chromen-2-spiro)-2',7'-1',4',5',8'-tetrahydro-1',1',8',8'-tetramethyldipyrrolo[1,2,3-d,e:3,2,1-i,j]benzo[g]quinoxaline and bis(6-nitro-8-chlor-2H-chromen-2-spiro)-2',7'-1',4',5',8'-tetrahydro-1',1',8',8'-tetramethyl dipyrrolo[1,2,3-d,e:3,2,1-i,j]benzo[g]quinoxaline were obtained.



The new spirochromenes in open condition expressed the ability to change color by the moving from the darkness to sunlight and oppositely, which can be repeated multiple times. These color transition is fixed in the electronic spectrum in displacement of an absorption maximum. The photochromic properties for obtained bis-spirochromenes have been studied in their solvents using electromagnetic investigation.

It was founded that after UV irradiation of the determined compounds' freshly prepared solution takes place the hypsochromic displacement of absorption maximum towards a longer wavelength. On this basis, we can assume that the compounds belong to the inverse photochromic compounds.