

## Novel Fluorescent Dyes

### Description

The present invention consists of novel fluorescent dyes that primarily feature a large Stokes shift and long fluorescence lifetime. This is a nearly unique combination.

The novel dyes have a chemical structure previously unknown in fluorescent dyes. Moreover, they have excellent photophysical properties and are easy to synthesize compared with other fluorescent dyes.

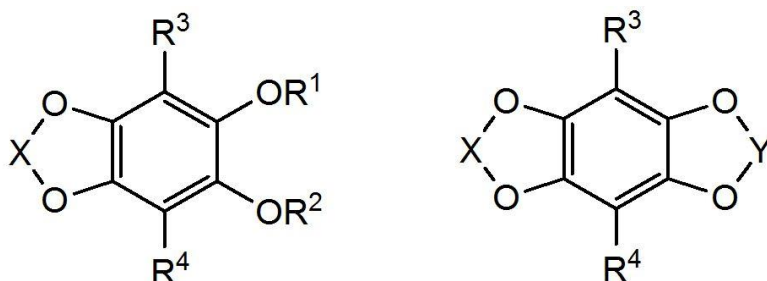


Fig.: General formula of the novel fluorescent dyes

### Characteristics

Fluorescent dyes have applications in all kinds of industries, primarily in biochemistry, biology and medicine. Fluorescent dyes are increasingly being used in a variety of fields including microscopy, environmental analysis, drug screening and diagnostics kits.

Fluorescent dyes are characterized by a number of parameters, such as excitation wavelength  $\lambda_{exc}$ , extinction coefficient  $\epsilon$ , Stokes shift  $\Delta\lambda$ , fluorescence lifetime  $\tau_F$ , and quantum fluorescence yield  $\Phi_F$ .

For biological applications, dyes should have a large excitation wavelength, extinction coefficient, Stokes shift and quantum fluorescence yield, as well as a long fluorescence lifetime. The novel dyes have excellent properties in almost all of these parameters.

The decisive advantages of the new process are:

- Large Stokes shift in conjunction with a long fluorescence lifetime
- Easy to synthesize compared with other fluorescent dyes
- Good yield in synthesis
- Possibility to synthesize various derivatives

Due to the possibility of coupling the new Fluorescent dyes with biomolecules using functional residues good applicabilities in biochemical research and diagnostics arise.

#### Technical Field

- Bioorganic chemistry
- Fluorescent dyes

#### Keywords

- Stokes shift
- Fluorescence lifetime
- Bioanalytics

#### Patent status

- European patent  
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DE, FR, GB, AT, CH
- US-Patent  
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#### Developmental Maturity

- Laboratory scale

#### Conditions of Use

- Sale
- Licensing
- Option
- R&D-Cooperation

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