

STYDY OF FLUORESCENCE PROPERTIES OF
N-METHYL-4-(4-HYDROXYPHENYL) PYRIDINIUM IODIDE

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ABSTRACT

N – methyl – 4 – (4 – hydroxyphenyl) pyridinium iodide , 4OHMPP^+ , is a compound with solvent dependant fluorescent properties which shows a marked difference in its fluorescence depending on whether the compound is in a hydrophilic or hydrophobic environment . 4OHMPP^+ exists in two different tautomeric forms , the fluorescent hydroxy form and the non fluorescent quinoid form . The hydroxy form predominates in acidic media and the quinoid form in alkaline media .

Cyclodextrins are cyclic oligosaccharides which are consisted of glycopyranoside units. The arrangement of these glycopyranoside units give cyclodextrins the overall shape of a truncated cone with a cavity inside . The cavity of these cyclodextrins can host 4OHMPP^+ molecule , form an inclusion complex and alter its fluorescent properties

Cyclodextrins provide an excellent protein model for binding studies of 4OHMPP^+ . 4OHMPP^+ and related compounds damage the brain cells and cause Parkinson's disease .

The study of fluorescence properties of 4OHMPP^+ upon formation of an inclusion complex with β – cyclodextrin will enable to understand the properties of active sites of multiprotein complexes such as enzymes and membrane bound transporters