

Multimetal centre porphyrin trimers for light harvesting

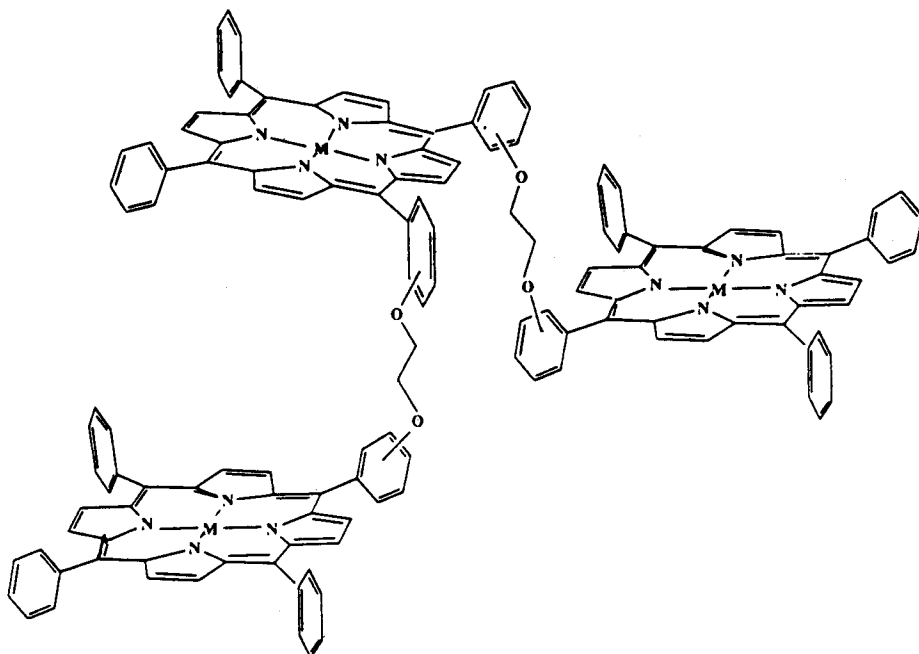
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Porphyrin trimers provide useful model systems for the study of excitation energy transfer to understand the mechanism of light harvesting in the photosynthetic antenna proteins. The three identical porphyrin units are made spectrally distinct by the insertion of different metal ions, paving the way for the investigation of excitation migration in these systems. The trimers of tetraphenylporphyrin have been synthesised by substitution at either opposite (*trans*) or adjacent (*cis*) *meso* aryl groups.

The ¹H NMR spectra of these derivatives are highly characteristic and provide information on the relative population of the 'closed' and 'open' conformers in these systems. The results of steady-state and time-resolved fluorescence studies suggest fast intramolecular excitation energy transfer in these systems. Attempts to obtain predominantly 'closed' conformers using axial ligands are presented and discussed.



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