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Studies on *meso*-substituted free-base octamethoxyporphyrins

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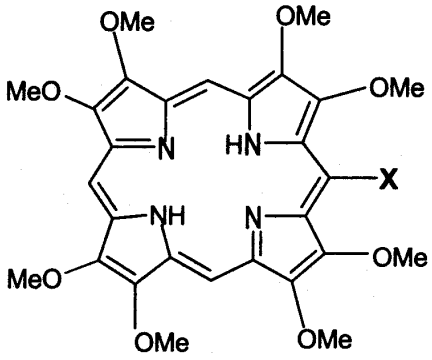
Octamethoxyporphyrin, with eight electron-donating methoxy groups, is the most electron-rich porphyrin and shows interesting photophysical and electrochemical properties. Here, we report the synthesis of various *meso*-substituted free-base octamethoxyporphyrins (figure)



Structure of *meso*-substituted free-base octamethoxyporphyrins.

These are characterized by ^{1}H NMR and other spectroscopic methods. The optical absorption spectra of these *meso*-substituted free-base porphyrin derivatives exhibit a hypsochromic shift compared to the unsubstituted octamethoxy free-base derivative. The emission data of these *meso*-substituted free-base derivatives reveal a marginal red shift of the transitions with reduced quantum yield compared to the unsubstituted free-base porphyrin. These data are discussed in terms of electronic structure calculations.

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