

# Spectroscopic and Electrochemical Properties of Cyclopalladated Complexes of 2,3-Diphenylquinoxaline and 2,2',3,3'-Tetraphenyl-6,6'- Biquinoline

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**Abstract**—Comparative study of cyclopalladated ethylenediamine complexes of 2,3-diphenylquinoxaline (Hdphqx)  $[\text{Pd}(\text{dphqx})\text{En}]\text{ClO}_4$  and 2,2',3,3'-tetraphenylbiquinoline ( $\text{H}_2\text{tphbq}$ )  $[(\text{PdEn})_2(\mu\text{-tphbq})](\text{ClO}_4)_2$ , and the free heterocyclic ligands was performed by means of  $^1\text{H}$  NMR spectroscopy, electronic absorption and emission spectroscopy, and cyclic voltammetry. It was shown that cyclopalladation gives rise to a long-wave absorption band in the visible spectrum, a bathochromic shift of the vibrationally structured phosphorescence band, and an anodic shift of the ligand-centered reduction potential of the complexes compared to free ligands.

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