

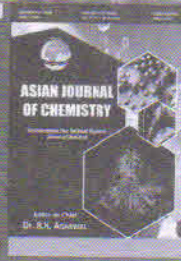


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## REVIEW

### Role of Schiff Bases and their Complexes in Optoelectronic Devices: A Review

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Schiff bases, also known as imines, have gained considerable popularity for use in optoelectronic devices. Their ability to coordinate with different metal ions, unique electronic and charge transport properties and tunability *via* minor structural modifications make them suitable for these devices. The ease of modifying the optical energy band gap for desired absorption and emission characteristics, reduced toxicity, enhanced energy efficiency and material flexibility are attractive features promoting their use in optoelectronics. The present study compares important electrochemical, thermal and photophysical properties like optical band gaps, HOMO-LUMO energies, thermal stabilities and absorption/emission wavelengths of Schiff bases and their metal complexes. High fluorescence quantum and efficient charge transport are crucial for efficient light emission and enhanced performance of various optoelectronic devices. Schiff bases, their metal complexes and hybrid systems composed of Schiff base complexes with metal/semiconductor materials, which have been recently studied for use in organic light-emitting diode (OLED) and organic solar cells (OSC), have been reviewed in this article.

**Keywords:** Schiff bases, Metal complexes, Optoelectronic properties, Organic light-emitting diode, Organic solar cells.