22nd Iranian Inorganic Chemistry Conference,
23-25 August, 2023
University of Kurdistan

The Study on Structural and Optical properties of Binuclear Platinum Complexes with various bidentate Ligands

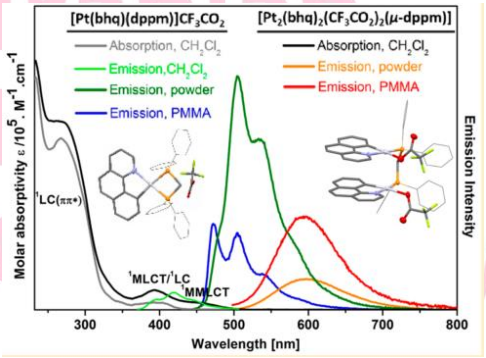
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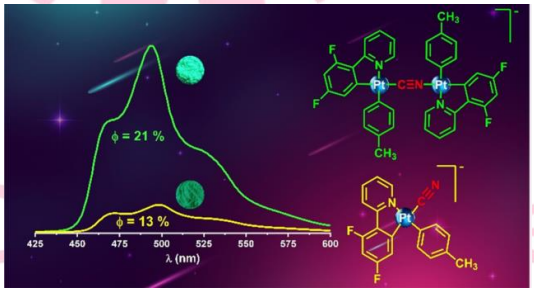
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The cyclometalated organometallic compounds have been extensively investigated by many research groups because of their catalytic reactivity in organic synthesis, diverse medical and industrial applications. In particular, cyclometalated platinum(II) complexes have been widely developed for their applications in organic light-emitting diodes (OLEDs), vapor sensing, oxygen sensing and DNA applications. However, most applications are restricted to mononuclear cyclometalated organoplatinum(II) complexes; in which different kind of electronic transitions, such as metal to ligand charge transfer (MLCT), ligand centered (LC) and ligand to ligand charge transfer (L′LCT), are involved in any related emission operation.

Furthermore, binuclear platinum complexes have drawn attention on account of their particular photophysical properties[1-4]. There are metal-metal to ligand charge transfer (MMLCT) transitions in binuclear platinum(II) complexes, when Pt···Pt distance is less than 3.5 Å (sum of two platinum van der waals radius), leading to marked red shifts compared to the corresponding emission peaks of mononuclear platinum complexes.





Keywords: Platinum, Binuclear, Luminescence, Phosphine, Cyanide

References

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