第167回 OPERA研究交流セミナー
第158回 ISIT有機光エレクトロニクス研究特別室セミナー
第225回 未来化学創造センターセミナー

日時： 2017年3月27日（月） 15:00～
場所：九州大学 共進化社会システムイノベーション施設 2F大会議室

Synthesis and Photophysical studies of organic materials for the development of OLED emitters (Phosphor & TADF)

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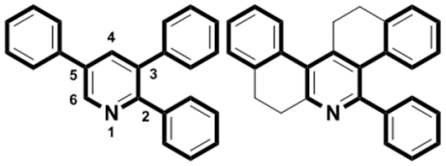
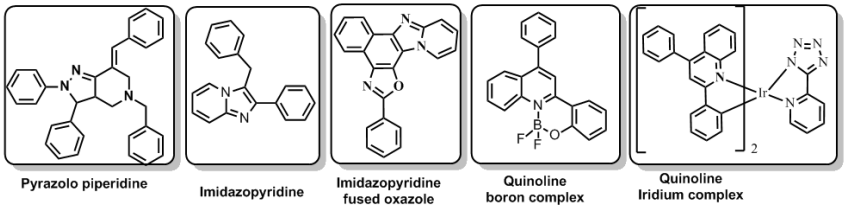
5-Phenyl-7,8,13,14-tetrahydrobenzo[a,i]phenanthridines [PTP], synthesized from our laboratory, can be easily functionalized and can be tuned to various applications. Since, it is having a structure of diphenyl pyridine linked by ethane bridges; we studied the conformation of the molecule. We started investigating the application of these molecules. First, we carried out some biological studies and these molecules are having moderate biological activities. Since these molecules are having fluorescent property, we thought of studying the photophysical studies. While studying the photophysical studies, we introduced various groups (like donor and acceptor) in the phenyl rings to see their effect on the photophysical studies and fortunately we got encouraging results. We were able to distinguish aniline in a mixture of various compounds like aliphatic amines, alcohols, acids etc. As a result we wanted to study these materials to see their suitability for TADF materials. We synthesized similar various luminescent organic molecules (pyrazolo piperidines, imidazopyridine, quinolines and studied their photophysical studies. We investigated OLED properties of synthesized iridium complexes and found maximum EQF of 13% for orange OLED.





主催：九州大学 最先端有機光エレクトロニクス研究センター
：財団法人九州先端科学技術研究所（ISIT）
共催：九州大学 未来化学創造センター