

ORAL DEFENCE ANNOUNCEMENT



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Synthesis and Properties of Novel Polycyclic (Hetero)aromatic Systems

Polycyclic aromatic hydrocarbons are ubiquitous functional molecules that have numerous applications in optoelectronic devices, molecular recognition and sensing. In this context, we describe the synthesis and properties of novel polycyclic (hetero)aromatic systems.

Part 1 of the thesis firstly, describes the synthesis and properties of phospho[5]helicenes bearing an inner-rim phosphorus center. Secondly, the synthesis and optical properties of phosphole oxide-fused triphenylene derivatives. The key intermediate, for both these projects is 7-hydroxybenzo[b]phosphole oxide, which was prepared in a regioselective manner from 3-(methoxymethoxy)phenylzinc reagent, 5-decyne, and PPhCl₂ in a one-pot protocol was utilized for the extension of the π -conjugation system.

Part 2 of the thesis describes the palladium-catalyzed annulation of 1-halo-8-arylnaphthalenes and alkynes leading to heptagon-embedded aromatic systems with all sp² carbon center. Notable feature of the reaction is the broad substrate scope and two-fold annulated heptagon containing PAHs.

Date:	23 January 2020
Time:	3.00 PM
Venue:	Conference Room, Research & Graduate Studies Office, Level 2, SPMS
Supervisor:	Assoc Prof Naohiko Yoshikai