Application of C-H Functionalization Reactions to the Synthesis of Novel Heterocycles

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In the first part of the lecture, a two-step synthesis of structurally diverse 3-aminoindazoles from readily available starting materials will be presented. This sequence includes a one-pot chemoselective electrophilic activation of tertiary amides and nucleophilic addition of hydrazides to form aminohydrazones. These precursors then participate in an intramolecular ligand-free Pd-catalyzed C-H amination. The azaheterocycles synthesized via this approach were further diversified by subsequent deprotection/functionalization and transition Ru-catalyzed C-H arylation.

In the second part of the presentation, the preparation of tailored novel fluorescent derivatives that features an intramolecular C-H functionalization will be presented. The fluorescent properties can easily be fined tuned by modifying the basic molecular scaffold.