Functional Heterocyclic π-Systems by Multicomponent and Domino Syntheses

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Multi-component and domino reactions are efficient and effective methods in the rapid and diversity-oriented synthesis of heterocycles. In particular, transition metal catalyzed multi-component sequences have recently gained a considerable interest. Based upon transition metal catalyzed entries to yrones, diynones, and enones and sequentially Pd-catalyzed processes we have opened new avenues to one-pot syntheses of numerous classes of heterocyclic frameworks. Among functional π-electron systems selected luminescent heterocycles are readily accessible in a modular fashion. They display peculiar photophysical properties, such aggregation induced emission, pronounced emission solvophochromicity, and photoinduced charge separation in DSSC.

3 Müller, T. J. J.; D’Souza, D. M. Pure Appl. Chem. 2008, 80, 609.