

# Investigation of the synthesis of a large acene precursor

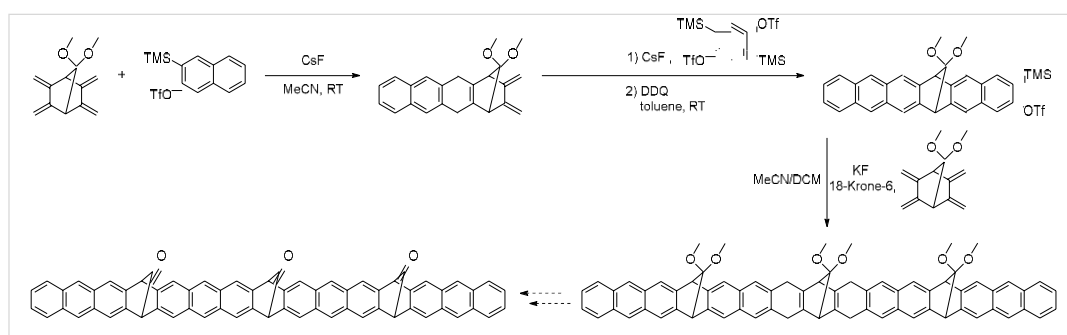
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Acenes are polycyclic aromatic hydrocarbons (PAHs) consisting of linearly condensed benzene units. In comparison to their topological isomeric PAHs, acenes show up the smallest HOMO-LUMO gap. Based on the resulting, excellent properties, stabilized derivatives up to pentacene have been successfully applied as organic functional materials in electronic devices. Pushing the limits in synthesis of longer, unsubstituted acenes and their optical characterization gives further insight into their intriguing electronic structure.<sup>[1]</sup>



**Figure 1:** Synthesis of the [15]-acene monoketone bridged photoprecursor.

Due to their high reactivity, making use of sophisticated synthetic strategies and isolation techniques is inevitable in acene chemistry. In the present project, a Diels-Alder sequence starting from a dimethoxy-acetal-bridged bisdiene and leading to a potential photoprecursor of the so far unknown [15]-acene is being investigated.<sup>[2]</sup>

References:

[1] C. Tönshoff, H. F. Bettinger, *Chem.Eur.J.* **2021**, *27*, 3193–3212.

[2] A. Jancarik, G. Levet, A. Gourdon, *Chem.Eur.J.* **2019**, *25*, 2366– 2374.