Synthesis of [n]Phenacenes

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Syntesis of [*n*]Phenacenes

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[*n*]Phenacenes are group of polycyclic aromatic hydrocarbons, which are isomeric form of [*n*]acenes and [*n*]helicenes. Such compounds are suitable for use in optoelectronic applications (OLED, OFET), owing to their highly delocalized π-electron system. Due to the higher stability, [*n*]phenacenes can potentialy find practical utilization in optoelectronics over [*n*]acenes.

The goal of this work was to develop a multigram scale photochemical syntesis of [*n*]phenacenes and their derivatives from stilbene-type precursors. Vast effort was made to examine [*n*]phenacenes-based organic P-type semicondutors in the past. This work is also focused on an introduction of electron-acceptor substituents (fluorine, nitrogen) into or onto phenacene skeleton (figure 1). The proper choice of substitutions can lead to change in semiconductivity of [*n*]phenacenes so their properties could be easily modulated.

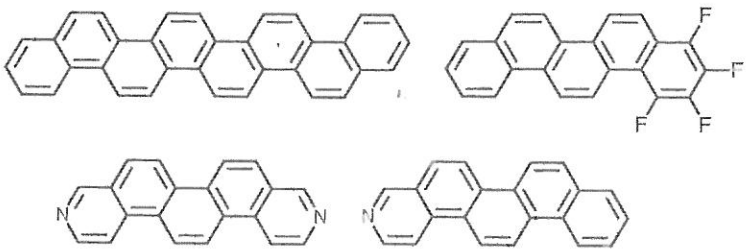

Figure 1: Examples of [n]phenacenes