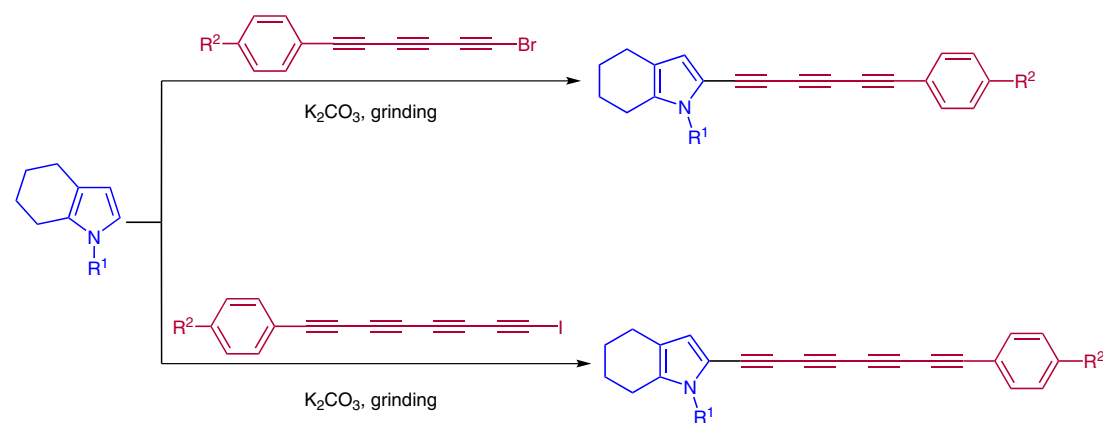
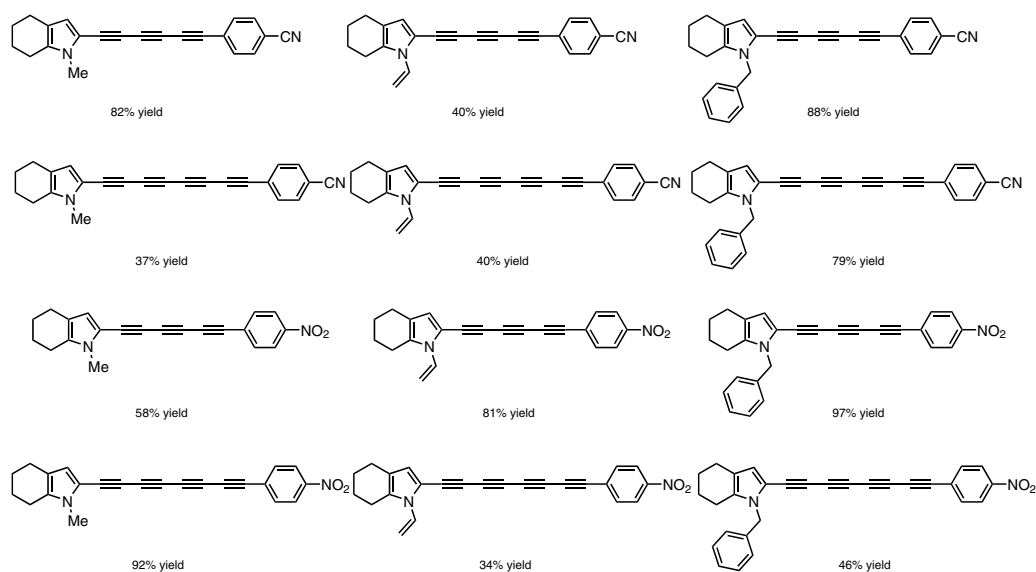


Mechanochemical Synthesis of Pyrrole-Substituted Polyynes



Selected examples:



Significance: The authors present a metal-free, mechanochemical synthesis of polyene-substituted pyrroles. The structurally demanding hexatriynyl- and octatetraynyl-substituted pyrroles were successfully obtained by simple grinding of 1-haloalkynes, pyrroles, and potassium carbonate. This approach is unprecedented in the synthesis of long polyynes.

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Comment: The reported synthesis exhibits an effective way to obtain pyrrole-end-capped polyynes. Although coupling reactions of pyrroles with 1-haloalkynes are much more efficient using bromides rather than iodides, 1-iodoalkynes were used for the synthesis of longer polyynes in this work because of the poor stability of longer 1-bromoalkynes. The presented polyynes are promising candidates for molecular wire applications.