## Conjugated [5]Cumulene Polymers from Propargylic Monomers






Small-molecule model and mechanism


Significance: Due to the challenging syntheses and instability of high cumulenes, their functional explorations are limited. Here, a step-growth polymerization method is reported for achieving conjugated high polymers featuring [5]cumulene as a repeat unit.

Comment: To tackle the stability issue, substituents are introduced at the ortho-position of the aryl side groups, providing steric protection by adjusting the torsion angles with respect to the main chain. Improved stability, as well as backbone planarity, is observed with the polymers.

## Key words

[5]cumulene
conjugated polymers
propargylic alcohol
step-growth polymerization

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