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Synthesis of alpha-Alkylidene Cyclic Carbonates Obtained by Silver-Catalyzed Carboxylative Cyclization of 1,4-Butynediol Alcohols

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PURPOSE OF THE ABSTRACT

Exo-vinylene carbonates (EVCs) are valuable precursors in organic synthesis, and serve as polymerisable building blocks towards poly(beta-hydroxyurethane)s and poly(carbonate)s.1 In the interest of atom economy, the most desirable route towards EVCs involves the cyclisation of propargylic alcohols with the insertion of CO2. Thus far, the carboxylative cyclisation reaction has been limited to the synthesis of substituted EVCs, due to the more facile cyclisation of 2° and 3° alcohols.2 We report for the first time, the synthesis of new, unsubstituted EVCs in excellent yields under mild reaction conditions

FIGURES

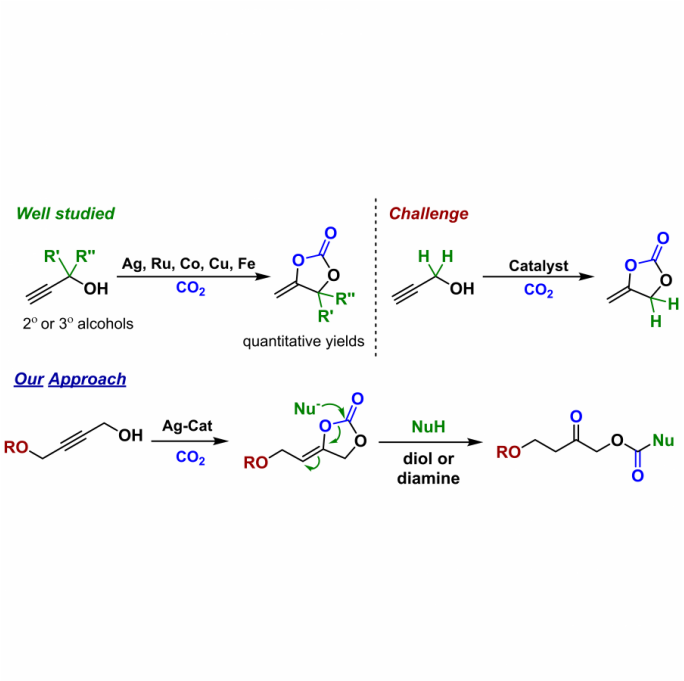

FIGURE 1

Synthesis of exo-vinylene carbonates (EVCs).

Development of a new and efficient synthesis of exo-vinylene carbonates (EVCs)

FIGURE 2

KEYWORDS

Exo-vinylene carbonates | poly(beta-hydroxyurethane)s | atom economy

BIBLIOGRAPHY

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