

Number 30/2016 July

Editors' Choice

This week the ChemInform editors have been strongly impressed by the following remarkable study:

Cyclopropane derivatives Q 0021

DOI: 10.1002/chin.201630077

30-077

[1 + 1 + 1] Cyclotrimerization for the Synthesis of Cyclopropanes. —

The copper-catalyzed [1+1+1] cyclotrimerization of acetophenone derivatives affording a wide range of highly substituted cyclopropanes under mild reaction condition is reported for the first time. The method involves an unusual cascade process that allows the stereoselective formation of saturated carbocycles by functionalization of C(sp³)—H bonds. — (MANNA, S.; ANTONCHICK*, A. P.; Angew. Chem., Int. Ed. 55 (2016) 17, 5290-5293, http://dx.doi.org/10.1002/anie.201600807 : Abt. Chem. Biol., MPI Mol. Physiol..

http://dx.doi.org/10.1002/anie.201600807; Abt. Chem. Biol., MPI Mol. Physiol., D-44227 Dortmund, Germany; Eng.)— Toeppel

$$Ar^{1} CH_{3} \xrightarrow{\text{(tBu-O)}_{2}, \text{PhCl}} \xrightarrow{\text{Ar}^{1}} CH_{3} \xrightarrow{\text{[-> a] Cul/BIP (2:3) (cat.), 75°C}} [-> b-j] Cul/BIP (1:2) (cat.), 90°C} \xrightarrow{\text{II}} II$$

$$a Ar^{1} : -Ph \qquad 69\% (>90\% \text{ d.e.})$$

$$b Ar^{1} : -Tol \qquad 43\% (>90\% \text{ d.e.})$$

$$c Ar^{1} : -\sqrt{0} \qquad 65\% (>90\% \text{ d.e.})$$

$$d Ar^{1} : -\sqrt{0} \qquad CH_{2} \qquad 43\% (>90\% \text{ d.e.})$$

$$e Ar^{1} : -\sqrt{0} \qquad CH_{2} \qquad 43\% (>90\% \text{ d.e.})$$

$$f Ar^{1} : -\sqrt{0} \qquad CF_{3} \qquad 79\% (>90\% \text{ d.e.})$$

$$h Ar^{1} : -\sqrt{0} \qquad F \qquad 86\% (>90\% \text{ d.e.})$$

$$i Ar^{1} : -\sqrt{0} \qquad S5\% (>90\% \text{ d.e.})$$

$$j Ar^{1} : -\sqrt{0} \qquad S5\% (>90\% \text{ d.e.})$$

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