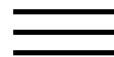


Hydroxyapatite-supported copper (II)-catalyzed azide-alkyne [3+ 2] cycloaddition with neither reducing agents nor bases in water.

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Hydroxyapatite-supported copper(II)-catalyzed azide-alkyne [3+2] cycloaddition with neither reducing agents nor bases in water

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Abstract

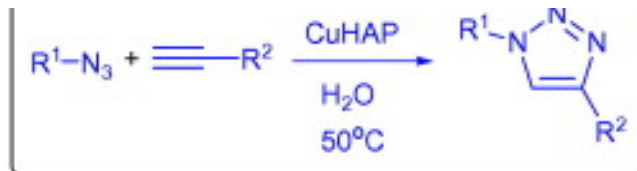
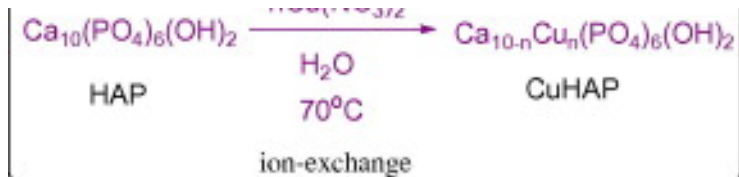
Copper(II)-exchanged hydroxyapatite, prepared by ion-exchanging of Ca(II) in calcium hydroxyapatite [Ca₁₀(PO₄)₆(OH)₂] with Cu(NO₃)₂ at 70 °C in water, functions as a reusable heterogeneous catalyst with neither reducing agents nor bases for azide-alkyne [3+2] cycloaddition at 50 °C in water under air.

Graphical abstract

Preparation of a reusable CuHAP catalyst

$n\text{Cu}(\text{NO}_3)_2$

CuHAP-catalyzed azide-alkyne [3+2] cycloaddition



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Keywords

Copper(II)-exchanged hydroxyapatite; Azide-alkyne [3+2] cycloaddition; Reusable heterogeneous catalyst; Environmentally-benign process

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