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Green synthesis of naphtho[2,3-f]quinolin-13-one and naphtho[2,3-a]acridin-1(2H)-one derivatives catalyzed by heteropoly acid supported montmorillonite K-10 clay(Article)

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Abstract

Herein, synthesis of a series of naphtho[2,3-f]quinolin-13-one and naphtho[2,3-a]acridin-1(2H)-one derivatives directly by one-pot multi-component reaction of 1,3-dicarbonyl compounds (1,3-indanedione/1,3-cyclohexanedione), 2-aminoantharacene/2-naphthylamine and various substituted aldehydes under solvent-free conditions using heteropoly-11-molybdo-1-vanadophosphoric acid supported on montmorillonite K-10 clay catalyst (10% PVMoK-10) is reported. The successful formation of naphtho[2,3-f]quinolin-13-one and naphtho[2,3-a]acridin-1(2H)-one derivatives was confirmed by various spectroscopic techniques. This study offers a green approach for the synthesis of novel quinolinone derivatives. © 2019, © 2019 Taylor & Francis Group, LLC.

Author keywords

1,3-Dicarbonyl compounds | heteropoly acid | montmorillonite K-10 clay | naphtho[2,3-a]acridin-1(2H)-one | naphtho[2,3-f]quinolin-13-one

Indexed keywords

EMTREE drug terms: 1,3 cyclohexanedione | 1,3 indandione derivative | 2 aminoanthracene | 2 naphthylamine | acridine | aldehyde derivative | hexane | montmorillonite | naphtho[2,3 a]acridin 1(2h) one derivative | naphtho[2,3 f]quinolin 13 one | phosphoric acid derivative | quinoline derivative | unclassified drug

EMTREE medical terms: Article | catalysis | catalyst | green chemistry | mass spectrometry | one pot synthesis | polymerization | reaction analysis

Chemicals and CAS Registry Numbers:

2 aminoanthracene, 613-13-8; 2 naphthylamine, 91-59-8; acridine, 260-94-6; hexane, 110-54-3; montmorillonite, 1318-93-0, 61029-13-8

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