

عنوان مقاله:

An efficient green method for synthesis of 1,8 dioxooctahydroxanthenes in magnetized water as a new solvent

محل انتشار:

بیستمین کنگره شیمی ایران (سال: 1397)

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خلاصه مقاله:

Xanthene s are one of the most broadly distributed groups of natural compounds. Most xanthene derivatives have several biological activities such as the anti-microbial, anti-viral, and anti-tumor [1-3] ones. Among the commonly used solvents in organic synthesis, water is quite non-toxic, and it is the most economical, most abundant, safest, and most environmentally friendly medium. Sometimes water shows a higher reactivity and selectivity in comparison with the other conventional organic solvents because of its strong hydrogen-bonding ability. The water magnetization technique is an easy one without extra energy consumption when a permanent external magnet is utilized. A permanent external magnet can be installed on a previously established water tube system, resulting in no additional energy requirement for water magnetization. Here, we wish to report the catalyst-free synthesis of 1,8-dioxooctahydroxanthenes(3) via one-pot three-component reactions of 1,3-cyclohexandione/dimmedone (1) with various aldehydes (2) in magnetized water. To a 10-mL round-bottomed flask equipped with a magnetic stirrer bar and containing magnetized water (5 mL), were added an aldehyde (1.0 mmol) and 1,3-cyclohexandione or dimedone (2.0 mmol). The reaction mixture was stirred at room temperature, and the reaction progress was monitored by TLC using chloroform as the eluent. After completion of the reaction, the precipitate formed was filtered and purified by recrystallization from ethanol to afford the desired product.

کلمات کلیدی:

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