

Highly Efficient and Environmentally Friendly Preparation of 14-Aryl-14H-dibenzo[a,j]xanthenes Catalyzed by Tungsto-divanado-phosphoric Acid

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摘要 A rapid and efficient procedure for the preparation of various aryl-14H-dibenzo[a,j]xanthenes was reported. The method developed produced excellent yields via one-pot condensation of β -naphthol with various aryl-aldehydes in the presence of Keggin vanadium substituted heteropolyacid, $H_5PW_{10}V_2O_{40}$, as catalyst under solvent free conditions. The present methodology therefore offered several advantages but not limited to excellent yields (82% - 98%), short reaction times (30 - 50 min), mild reaction conditions, simple work-up, as well as the utilization of cheap and environmentally benign catalyst in the absence of organic solvents.

关键词: xanthene one-pot condensation aldehyde β -naphthol heteropolyacid Keggin solvent-free

Abstract: A rapid and efficient procedure for the preparation of various aryl-14H-dibenzo[a,j]xanthenes was reported. The method developed produced excellent yields via one-pot condensation of β -naphthol with various aryl-aldehydes in the presence of Keggin vanadium substituted heteropolyacid, $H_5PW_{10}V_2O_{40}$, as catalyst under solvent free conditions. The present methodology therefore offered several advantages but not limited to excellent yields (82% - 98%), short reaction times (30 - 50 min), mild reaction conditions, simple work-up, as well as the utilization of cheap and environmentally benign catalyst in the absence of organic solvents.

Keywords: xanthene, one-pot, condensation, aldehyde, β -naphthol, heteropolyacid, Keggin, solvent-free

收稿日期: 2012-01-04; 出版日期: 2012-04-19









引用本文:

Reza TAYEBEE, Shima TIZABI .Highly Efficient and Environmentally Friendly Preparation of 14-Aryl-14H-dibenzo[a,j]xanthenes Catalyzed by Tungsto-divanado-phosphoric Acid[J] 催化学报, 2012,V33(6): 962-969

Reza TAYEBEE, Shima TIZABI .Highly Efficient and Environmentally Friendly Preparation of 14-Aryl-14H-dibenzo[a,j]xanthenes Catalyzed by Tungsto-divanado-phosphoric Acid[J] Chinese Journal of Catalysis, 2012,V33(6): 962-969

链接本文:

[http://www.chxb.cn/CN/10.1016/S1872-2067\(11\)60387-2](http://www.chxb.cn/CN/10.1016/S1872-2067(11)60387-2) 或 <http://www.chxb.cn/CN/Y2012/V33/I6/962>


































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