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## Eco-Friendly and Recyclable Silica Gel : An Efficient Catalyst for the Synthesis of 14-Aryl-14H-Dibenzo[a,j] Xanthenes

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**Abstract:** A simple and highly effective approach has been established for synthesizing 14-aryl-14Hdibenzo[a,j]xanthene derivatives through the condensation of substituted benzaldehyde and  $\beta$ -naphthol. The reaction was catalyzed by Silica gel(Silica gel and carried out using both microwave irradiation and conventional methods. The key benefits of this method include a shorter reaction time, high product yield, and environmentally friendly features, such as the use of a non-toxic, cost-effective, and recyclable heterogeneous catalyst, eliminating the need for hazardous solvents and toxic catalysts.

Keywords: Dibenzo[a,j]xanthene, Titanium dioxide, Aldehyde, β-Naphthol, Green synthesis.



