

Novel chalcone analogs derived from 4-(benzyloxy)benzaldehyde

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Abstract. Eight chalcone analogs were prepared through an aldol condensation starting from 4-(benzyloxy)benzaldehyde and either less common acetophenones or a few selected heteroaryl methyl ketones. The reaction has been performed through the classical approach that employs an alkali as catalyst for five chalcone analogs, while a variant that uses piperidine as basic catalyst was employed for the other three chalcone analogs. The structure of the resulting enones has been established by NMR spectroscopy. Photoinduced dimerization of a selected benzyloxy-substituted chalcone analog under irradiation with UV light for periods of time ranging from 30 minutes to 24 h has also been monitored using NMR spectroscopy. Analysis of the results demonstrated the presence of the *E* isomer of the chalcone analog along with three regioisomeric cyclobutanes in the irradiated sample.

Keywords: Claisen–Schmidt; enone; reactive intermediate; photodimerization; cyclobutane.

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