



## Green Synthesis of 5-Arylidene-2,4-Thiazolidinedione derivatives Catalyzed by Titanium Dioxide under Microwave Irradiation

Adinath D. Badar<sup>1,2</sup>, Kiran F. Shelke<sup>1</sup>, Pramod S. Phatak<sup>1,2</sup>  
and Kisan P. Haval<sup>2\*</sup>

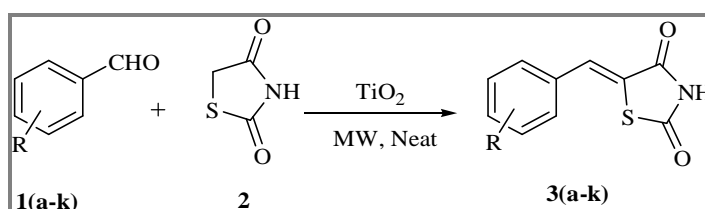
1. Department of Chemistry, Late Pushpadevi Patil Arts and Science College, Risod, Washim-444506 (MS) **INDIA**
2. Department of Chemistry, Dr. Babasaheb Ambedkar Marathwada University, Sub-Campus, Osmanabad-413501 (MS) **INDIA**  
Email: [havalkp@gmail.com](mailto:havalkp@gmail.com)

Accepted on 18<sup>th</sup> June, 2020

### ABSTRACT

Green synthesis, simple, eco-friendly approach for the synthesis of 5-arylidene-2,4-thiazolidinedione derivatives by Knoevenagel condensation of aromatic aldehydes with 2,4-thiazolidinedione catalyzed by titanium dioxide in solvent free condition under microwave irradiation has been performed. Effective simplicity, use of inexpensive catalyst, mild reaction conditions, high yield, short reaction time and green aspects by avoiding toxic catalysts and hazardous solvents are the key characteristics of this approach.

### Graphical Abstract:



Synthesis of 5-arylidene-2,4-thiazolidinediones

**Keywords:** Knoevenagel condensation, Titanium dioxide, 2,4-Thiazolidinedione, Aromatic aldehydes.