(12) PATENT APPLICATION PUBLICATION
(19) INDIA
(22) Date of filing of Application :01/11/2023

(21) Application No.202341074502 A
(43) Publication Date : 12/01/2024

(54) Title of the invention : A METHOD FOR SYNTHESIZING AZLACTONES USING ZIRCONIUM AND PHOSPHORUS COBALT-DOPED TITANIUM OXIDE NANO PHOTOCATALYST

(51) International classification	:C07D0263420000, A61N0007000000, A61B0090000000, B01J0035000000, C07C0045360000
(86) International Application No Filing Date	:NA :NA
(87) International Publication No	: NA
(61) Patent of Addition to Application Number Filing Date	:NA :NA
(62) Divisional to Application Number Filing Date	:NA :NA

(71)**Name of Applicant :**
1)Andhra University
Address of Applicant :Andhra University, Waltair, Visakhapatnam-530003, Andhra Pradesh, India. Visakhapatnam ---------- ----------
Name of Applicant : NA
Address of Applicant : NA
(72)**Name of Inventor :**
1)Prof. B. B. V. Sailaja
Address of Applicant :Professor, Department of Chemistry, Andhra university, Waltair, Visakhapatnam-530003, Andhra Pradesh, India. Visakhapatnam ---------- ----------
2)B. Lakshmi Rekha
Address of Applicant :Research Scholar, Department of Chemistry, Andhra university, Waltair, Visakhapatnam-530003, Andhra Pradesh, India. Visakhapatnam ---------- ----------
3)V. Christopher
Address of Applicant :Assistant Professor, Department of Chemistry, Andhra university, Waltair, Visakhapatnam-530003, Andhra Pradesh, India. Visakhapatnam ---------- ----------

(57) Abstract :
ABSTRACT: Title: A Method for Synthesizing Azlactones Using Zirconium and Phosphorus Co-Doped Titanium Oxide Nano Photocatalyst The present disclosure proposes a novel and efficient method for synthesizing azlactones using zirconium (Zr) and phosphorus (P) co-doped titanium dioxide (TiO2) nano photocatalyst and ultrasonic irradiation. The proposed method significantly shortens reaction times compared to conventional methods, thereby enabling rapid and efficient azlactone synthesis. The proposed method achieves high yields of the desired azlactones, thereby minimizing side reactions and maximizing product output. The proposed method employs the zirconium (Zr) and phosphorus (P) co-doped TiO2 nano photocatalyst to enhance selectivity, thereby producing azlactones with minimal impurities and unwanted byproducts. The proposed method operates under mild reaction conditions, thereby reducing energy consumption and minimizing environmental impact. The proposed method that adheres to green chemistry principles by utilizing environmentally friendly solvents and minimizing waste generation.

No. of Pages : 29 No. of Claims : 10